

# **Inequality and Economic and Political Change: A Comparative Perspective**

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## Abstract

This paper describes the broad evolution of inequality in the world economy over the past four decades, and provides a summary account of the relationship between inequality, economic development, political regimes and the functional distribution of income. A central finding is that the movement of inequality within-countries since 1971 exhibits a strong common pattern across countries, suggesting that changes in the global terms of trade between sectors and especially creditor-debtor relationships have powerfully influenced the movement of inequality almost everywhere. We also find evidence that political regimes matter: ideologically egalitarian regime types do exhibit lower measures of inequality, after controlling for economic variables, for region and for changes over time. The evidence on inequality comes from a series of data sets built by the University of Texas Inequality Project; that on the related factors is developed in background papers referenced below and available on the UTIP web-site at <http://utip.gov.utexas.edu>.

## 1. Introduction

This paper describes the broad evolution of inequality in the world economy over the past four decades, and provides a summary account of the relationship between inequality, economic development, political regimes and the functional distribution of income. For this purpose, widely-used global data sets on economic inequality are inadequate, for reasons described in Atkinson and Brandolini (2001) and Galbraith (2009). We take a different approach, primarily by integrating the global, regional and national data sets on economic inequality of the University of Texas Inequality Project into the inquiry. These data provide dense, consistent and reliable measures of inequality in the structure of pay and earnings, for a large number of countries from the early 1960s through to the early years of the new century.

## 2. Sources of Data and Limitations of the Project

UTIP's inequality measures are computed as the between-groups component of a Theil T statistic<sup>1</sup>, a very general procedure that can be applied to many sources of data, including harmonized transnational industrial data sets (such as UNIDO's Industrial Statistics), regional data sources (such as Eurostat's REGIO) and national data sources subdivided by province, economic sector, industry, or any combination of these at practically any level of disaggregation. The method does not require recourse to micro data sets derived from sample surveys, and the result is a plethora of new measures of the evolution of economic inequality, comparable both through time and across countries.

The fundamental method is summarized in Conceição, Galbraith and Bradford (2001), and is based on the work of Theil (1972). Conceição *et al.* demonstrated that for a wide range of commonly available, hierarchical data sets (such as industrial classification schemes) relatively coarse disaggregation is sufficient to capture the major movements of inequality in the whole distribution. The UTIP inequality measures are broadly consistent with conventional, survey-based income inequality measures, or can be made so statistically, by allowing for conceptual differences between pay and income, and for the many different kinds of inequality that are reported in the survey-based literature (e.g., income, expenditure, gross or net of tax, household or personal) (Galbraith and Kum 2005).

The UTIP data are largely focused on pay, aggregated by sector and region. Pay is associated with jobs, not with households, and the data sets lack information on the characteristics of the workers or their families, and on non-wage incomes. For this reason, the UTIP studies are not well suited to an analysis of the social welfare consequences of political and economic change, nor of the effects of such change on gender or ethnicity, except where these attributes are associated with the distribution of jobs. Finally, the data are entirely pre-transfer; they shed no direct light on the post-transfer distribution of income.

### 3. Inequality, Structural Change and the Global Inter-Sectoral Terms of Trade

Kuznets (1955) identified the transition from agriculture to industry as the prime mover of a process of increasing inequality in the early stages of economic development, simply

because towns and cities are always richer on average than the countryside around them. Later, as agricultural populations declined, inequality would again fall. The Kuznets curve—an inverted “U” relationship between inequality and income— thus describes a process of inter-sectoral transition specific to the history of economic development in the United States, the UK, much of Europe and Japan. The process has repeated elsewhere – but not everywhere. In countries with different sectoral compositions of output, such as those dominated by plantation agriculture or mining, different patterns should be expected. Kuznets’ enduring message is not that the same curve will always apply, but that the essence of inequality lies in the inter-sectoral transitions, or “structural changes,” that constitute the process of economic growth.

Galbraith (2009) offers a schematic of an “augmented Kuznets curve,” reproduced here as Figure 1. For large agrarian societies in the process of industrialization, of which China is the leading example today, urbanization still drives the rise in inequality. But most developing countries, especially outside Africa, are over the hump of that inverted U, and on the downward-sloping portion of the curve. Among the highest-income countries, notably the US, UK and Japan, a pro-cyclical relationship between inequality and growth takes over, and the Kuznets relation become positive again (Galbraith 1989, 1998). This is because the highest-income sectors, in technology and in finance, enjoy their greatest income growth in boom times, whether driven by domestic investment or by exports, and thus income and inequality rise together.

Figure One about here.

Kuznets' argument was rooted in a narrative of national economic development, predating our modern preoccupation with globalization and interdependence. Yet the importance of inter-sectoral transitions to his story signals that we might also expect the global terms-of-trade *between* sectors to play an important role in determining movements of inequality, even where internal *structural* change is not a dominant factor. Thus a commodities boom will tend to reduce inequality in a country with an important agricultural sector, simply because it raises the relative income of farmers. A cartel action on the oil price gives oil producers resources to redistribute (notably into construction); meanwhile it squeezes the middle class in industrial countries. Inequality falls among oil producers and rises among oil consumers, in that case. A technology bubble raises incomes at the top. High interest rates are, generally speaking, bad for debtors and good for creditors, thus they increase inequality since the latter are generally richer than the former. And so forth.

These effects are global. In a world of globalized financial and commodity markets, they should show up (almost) everywhere at once. As Galbraith and Kum (2003) demonstrated, they do: there is a common time pattern of the movement of inequality within-countries in the world economy from the early 1970s onward. This moves in three phases, as illustrated in Figure 2, which presents the sequence of time-dummies from a two-way fixed-effects panel regression, where inequality is the dependent variable, and the independent variables are country, year and per capita income. The time dummies thus measure (as an intercept)

the common deviation of inequality each year from a comparison year (in this case, the final year of the sample), and the movement of the time dummies over time captures the common or global element in the movement of inequality within-countries.

From the first observed year (1963) until around 1971 there is no common trend. The period from 1972 through 1980 is one of moderately *declining* inequality, in much of the world. This period coincided with the collapse of the global financial framework of the Bretton Woods era, and the subsequent inflationary boom, abetted by large-scale commercial bank lending at negative real interest rates.

Figure Two about here.

The second phase is of sharply rising inequality. It began around 1982 and continued through to the end of the century, and is associated with the calamity of the global debt crisis, initially most severe in Latin America and Africa, followed by the collapse of the communist governments of central and eastern Europe, and finally by the wave of deregulation and liberalization in Asia in the 1990s. The overall pattern through the millennium resembles almost exactly that found by Milanovic (2007) for a measure of inequality between-countries, unweighted by population. This should not be surprising: events which raise the gap between rich and poor people within countries should also, in principle, raise the gap between rich and poor countries, since the latter are just unbalanced collections of the former.

The pattern has exceptions. Notably, India and China avoided the global rise in inequality in the 1980s, arguably *because* they had held themselves aloof from the commercial lending going on everywhere else and were therefore unaffected by the debt crisis. China's rise of inequality dates from the inflation crisis of 1989, while India's starts with the reforms of 1992 (Galbraith, Roychowdhury and Shrivastava, 2004). The exceptions help to confirm the hypothesis: a major force driving the movement of inequality in the age of globalization was not idiosyncratic national policies nor even structural change within countries. It was global forces affecting the inter-sectoral terms of trade.

The third common phase, beginning in 2001, is again of declining inequality. It coincides with the marked relaxation of credit conditions following the attacks of September 11, 2001 in the United States, and the repudiation of Washington Consensus policies that followed the Asian crisis of 1997, the Russian crisis of 1998, and the Argentine crisis in 2002. These changes appear to have permitted both higher growth and some abatement of the extreme increases in inequality that had afflicted the developing world for the previous twenty years.

Galbraith and Kum (2003) calculated that if the global element in rising inequality in the 1980s and 1990s were removed, there would have been no increase in economic inequality on average around the world; indeed given the Kuznets forces affecting inequality in the process of economic development, inequality in most countries and on average would have declined. Figure Three illustrates this calculation, separating out OECD and non-OECD countries to show that the global effect holds separately for both groups.

Figure Three about here.

The figure also shows that the high-income industrialized countries enjoy markedly less inequality than low-income and developing countries. Again this should not be surprising: the very essence of development lies in the emergence of a stable, middle-class working population, paid at rates which vary only by the range of skills in the workforce and the permissible extent of monopoly power in an urbanized, and possibly democratic, society. And the essence of underdevelopment is not poverty *per se*, but the gap between an extractive or plantation sector serving a small rentier elite, and a large peasant farmer, or urban slum, or (in some cases) menial immigrant population.

The high inequality of most low-income agrarian societies raises a question: was Kuznets right about agriculture? In the UK and 19<sup>th</sup> century North America-- north of the Mason-Dixon line-- small freeholds predominated and farming was egalitarian. But most agriculture (especially in the tropics) is highly unequal, being descended directly from feudal land tenure and slavery. Low-income agrarian economies with egalitarian pay structures tend to emerge only after revolutions, as in China (1949) and Cuba (1959), as well as Vietnam (1954, 1975). Whether apart from them the inverted U-Curve would have a low-income upward-sloping component at all, in modern times, is doubtful.

Figure Four presents the relationship between the share of agriculture in total employment and the UTIP-UNIDO Theil for manufacturing pay, for a selection of developed and



developing countries. The positive relationship is strong and consistent: the more farmers you have, the more inequality. Only Poland (a communist country in most years of this data) features as an outlier, suggesting that political regime can matter--but not very often.

Figure Four about here.

Taken together, these considerations paint a complex picture, yet one with regular features. For any given country, the movement of inequality can be said to depend on (a) the position of the country on an augmented Kuznets curve, (b) the direction of income change and associated structural change, and (c) the impinging external force of changes in the global inter-sectoral terms of trade (which may shift the position of the curve).

Overall, to summarize the argument above, structural change in the process of economic development *in most cases* tends to reduce inequality. Exceptions exist, and two among them are (a) low-income post-revolutionary agrarian societies in the process of urbanization and industrialization, and (b) high-income post-industrial societies as they move toward economies dominated by technological innovation and high finance. In these cases, inequality is likely to rise with income. Likewise, crises and shocks that periodically disrupt the processes of economic development tend to raise inequality.

However, it is changes in the relative prices (the terms of trade) between high- and low-income sectors that tend to dominate the actual movement of economic inequality in modern

times. Since oil and grain prices and interest rates are set in global markets, it should therefore be expected that the movement of economic inequality should be largely a common global phenomenon, operating in much the same way (though not symmetrically) in most of the world. This is what we observe in the data. The oil boom of the 1970s sharply distinguished movements of inequality between producers and consumers at that time. But the effect of OPEC is puny, compared with the world-altering financial bubbles, interest-rate shocks and debt crises of the period after 1979.

#### 4. Inequality and Structural Change: Selected Cases.

In this section, we review the experience of a number of specific countries in view of the general framework outlined above.

China is a canonical case of the evolution of inequality dominated by internal structural change, at least until very recently. The country was largely insulated from external relative price changes in the 1980s and 1990s, and though as of today China is well-integrated into international food and fuel markets, it still enjoys an internal price level for most labor-intensive wage goods that is far lower than the external prices of those same goods. Rapid growth from a post-revolutionary agrarian starting point implied rising inequality, and an accelerating dynamic of urbanization as greater urban-rural differentials generated greater migration from the countryside to the cities. This dynamic constitutes China's greatest social challenge, and the authorities are locked in a perpetual effort to balance control over

internal migration with a construction program sufficiently vast to accommodate the flow to the cities that is bound anyway to occur.

In very recent years, the Chinese picture has been complicated by large inflows of speculative capital, some of it moving through the current account in the train of an enormous export boom, which has in turn fueled an epic real estate boom in Beijing, Shanghai and other locations, considerably increasing the urban-rural inequality differentials. Figure Five illustrates the changing contribution to Chinese inequality of the different provinces within China, through 2005. The figure is constructed by stacking the elements of Theil's T: each segment of each bar represents the contribution to overall inequality of a particular province in a particular year. Those with incomes above the national average show positive values, those with incomes below national average show negative values. The figure provides a succinct measure of the rise and fall in relative terms of Chinese provinces in relation to each other.

Of particular note is the fact that the relative contribution of Beijing—which is not a coastal city nor a primary center for the production of goods for export—continued to rise even after the diffusion of economic growth caused the relative shares of Guangdong and Shanghai to tail off in the later 1990s and early 2000s. This is surely due in part to the construction boom attendant on the 2008 Olympics, and it illustrates the extent to which financial forces may be coming to dominate the inter-regional pattern of relative incomes inside China.

Figure Five about here.

In most of Latin America, large-scale urbanization, globalization, and specifically the internationalization of finance occurred decades back. In the 1980s and 1990s, countries found themselves afflicted by the (closely related) twin scourges of negative growth and adverse terms-of-trade shocks, above all the debt crisis. Thus they moved up a downward-sloping relationship between inequality and income, even as the relationship itself shifted out. In Mexico and Brazil, as Calmon *et al.* (2000) showed, the debt crisis and resulting industrial slumps were associated with large rises in inequality, as the collapse of import-substituting industries diminished the unionized working class. It is reasonable to infer that import-substituting industrialization (ISI) worked to reduce the (very high) inequalities associated with traditional Latin American economic dualism, and that later structural change in favor of the export-oriented growth model would again be characterized by a more unequal income structure. However, the short-term movement of inequality in the transition between these two models is clearly governed by the same forces that generated macroeconomic and industrial crises in the first place.

Mexico and Brazil in this period thus also illustrate the simple relationship between pay inequality in industry and the rate of economic growth. Where economic growth was sufficiently rapid to absorb the natural rise in the labor force (say, above three or four percent per annum), inequality in pay structures tended to be stable or to decline. When growth fell short of that threshold, inequality tended to increase. Figure Six illustrates this

relationship with annual data for the two countries. For countries in this situation, coping with rising inequality is largely a matter of restoring internal growth, so that the absorption of a growing labor force can resume. But it must also be, partly, a matter of more stable global financial governance, so long as the country remains exposed to external shocks.

Figure Six about here.

The case of the Russian Federation was closely analyzed via a data set for the years 1990-2000 developed by Krytynskaia from original sources in Goskomstat and reported on in Galbraith, Krytynskaia and Wang (2004). The dramatic increase came in 1992, with the implementation of shock therapy, led by price liberalization. It resulted in a massive collapse of the relative position both of farmers and manufacturing workers, as well as of the non-commercial sectors, such as health and education, previously supported by the state. In their place rise the leading sectors of the new Russia: energy and finance, and the city of Moscow as a world city in a country otherwise mired in post-communist depression. This situation became so extreme that by the end of the century, the lightly-populated West Siberian oil-and-gas regions of Tiumen and Khanty-Mansy had become major sources of the inequality of Russian incomes generally, while the conflict regions of the southern Caucasus had fallen far below the rest of the country in reported relative income.

In the United States, pay inequality rose under the demand shock of tight monetary policy and a high dollar in the early 1980s – a classic backward movement on a downward sloping

Kuznets curve. This movement was repeated in the recession of the late 1980s. Inequality in pay, particularly within manufacturing, then declined through much of the following decade, as the economy recovered and eventually reached full employment. Figure Seven illustrates the close relationship between inequality in the structure of manufacturing pay, in the United States, and the rate of open unemployment.

Figure Seven about here.

As the figure shows, *pay* inequality in the United States *declined* through the end of the millennium. Income inequality did not; indeed income inequality rose notoriously in the boom years. The two measures can be reconciled by noting that income includes a large component not derived from work, but rather drawn directly or indirectly from the capital markets: stock options, capital gains, and also the salaries paid to executives in firms financed in the start-up phase from equity issuance rather than cash flow. It would therefore not be surprising to find a relationship between income inequality and asset prices as measured on the capital markets.

In the last few years of the millennium, rapid growth driven by the technology bubble produced increasing *income* inequality in America. This was a move up an upward-sloping segment of the Kuznets curve, onto which the U.S. had stumbled in the transition to an economy largely centered on technology and finance. Geographically, this increase was exceptionally concentrated. Galbraith and Hale (2008) demonstrate that if the effects of

rising income in just five counties – New York (Manhattan), NY, Santa Clara, San Francisco and San Mateo, CA, and King County WA – are removed from the data, about half of the rise in between-county inequality in U.S. household incomes in the late 1990s would not have occurred. Removing the income growth of just 15 counties (out of 3,150) neutralizes the entire increase in inequality between counties. Figure Eight illustrates the close relationship between inequality of taxable incomes in the United States and valuations on the stock market. The correlation with the NASDAQ is especially strong through 2001, thereafter the largest income gains show more clearly in other indices. Other explanations for rising US income inequality--relating to technology, skill, trade and so forth--seem largely redundant.

Figure Eight about here.

## 5. Inequality and Political Regimes.

The political systems of the world in the final third of the twentieth century can be classed in groups ranging from communist states, to social democracies, to capitalist democracies, to authoritarian regimes and dictatorships of the right and the extreme right, including military governments and states actively torn by civil war. The 1960s and 1970s were a time of polarization, with a spread of military governments in Latin America, Africa and Asia in strong opposition to communism, then in power in the Soviet Union, Eastern Europe, China, North Korea, Vietnam and Cuba. In the final years of the century there has been a convergence toward capitalist democracy, often within a neoliberal policy framework. Thus

world history in these decades provides a rich field in which to search for systematic relationships between political regime and the level and change of inequality over time.

Political scientists in recent years have worked to develop a number of classification schemes of regime type, surveyed in Hsu (2008). These differ in method, but they tend to share a methodological quirk: they treat political regimes as existing on a continuum from “authoritarian” to “democratic.” Democracy is therefore conceptualized as an extreme outcome—the opposite of dictatorship—rather than as an ideological middle ground, while communist, fascist, and military dictatorships are grouped together as authoritarian. Underlying this are implicit preoccupations with human rights and the rule of law, and perhaps the notion that representative democracy represents a high point of political achievement. Yet, given the extreme differences of ideology between communist and anti-communist authoritarians on matters related specifically to economic inequality, scales constructed in this way are ill-suited to discriminating between the effects of regime type on inequality. It is therefore not surprising that the empirical results obtained so far in this area are weak. The commonly-heard question, “does democracy reduce inequality?” is ill-posed, for it does not clearly define the alternative: “in comparison to what?”

An alternative approach would allow the data to determine whether mean inequality measures for different regime types differ significantly from the general mean, after controlling for ostensibly independent characteristics such as the level of national income and population growth. This requires a categorical or qualitative data set, rather than a cardinal (or ordinal)



scale. Hsu (2008) has developed a comprehensive qualitative data set of regime type and regime change for the countries in the UTIP inequality data universe. These data permit us to classify practically all countries according to their place in the group structure discussed above, and to evaluate movements of inequality associated with changes of regime type.

Galbraith, Hsu and Zhang (2009b) provide an analysis of this data in relationship to the UTIP-UNIDO inequality measures, within a panel framework and using controls for region, for a battery of economic variables, and time dummies. Of the eight regime types introduced, six prove to have significant effects on inequality as measured in the UTIP-UNIDO data set. Communist regimes, social democracies, and Islamic republics enjoy(ed) significantly lower inequality than would be predicted by their income level, region and other controls. Current European colonies (in this data, mostly Caribbean) enjoy less inequality than other developing regions with similar economic and social characteristics.

Dictatorships and conservative democracies showed higher inequality than one would otherwise expect. The results were generally robust across various specifications, though it is important to recognize that the inclusion of controls for geographic region substantially reduces the amount of variance that the political variables explain.

It would be surprising if the ordinary back-and-forth of partisan competition *within* one or two regime types – multiparty democracy whether conservative or social democratic – made a large difference to national inequality measures. Since political parties are often numerous and their names idiosyncratic (Japan's Liberal Democratic Party, for instance) the

task of making a systematic appraisal of the effect of ordinary changes in government within a generally democratic regime is exceptionally arduous, even where, as with UTIP, annual inequality data are available.

Nevertheless, some work has been done in this area. Galbraith and Garza-Cantu (2001) categorized Latin American governments from the 1960s through the 1990s by the extent of their commitment to a populist agenda, and were able to show that populist governments throughout the region were frequently able to bring measures of inequality down during those years. Given their support for unionization, for food subsidies, and for higher minimum wages, this effect should not be surprising. Nor should the flouting of the external constraint that populism usually entailed make it a surprise that populist policy regimes never lasted very long. Figure Nine, taken from Calmon *et al.* (2000) illustrates the movement of pay inequality in Mexico, based on monthly data, for the long period from 1968 through 1999. Changes of presidency at regular six year intervals are noted on the chart. It seems clear that the populist moments in modern Mexican history – the government of Echeverria and that of Lopes Portillo after the discovery of oil in 1979 – were associated with strong growth and declining inequality, for which the price was paid in IMF programs and the debt crisis only a little bit later on.

Worldwide, many populist episodes ended violently. Galbraith and Purcell (2001) analyzed the consequences for inequality of 27 coups d'état throughout the developing world (including in Greece in 1967), and were able to show two important if unsurprising facts.

First, coups tended to follow periods of “abnormal” decline in inequality – the signature of the preceding populist regimes, and second, coups tended to be followed by long periods of rising inequality, as the social forces unleashed by populism were repressed. Thus the cycle of inequality, reform, violence and repression that characterized those years.

Since the return of multiparty democracy in all of Latin America and much of the rest of the world in the modern period, two general observations may be made. First, the new democracies lack the redistributionist commitments of their democratic predecessors; either the left has mellowed or the neoliberal policy order constrains choices in ways that the previous system did not. The initial conditions of much higher inequality than were observed before the dark years of repression have not been fully reversed; nor is it likely that they will be. Nevertheless, some progress has been made, particularly since the high water mark of the neoliberal ascendancy passed in the mid-1990s. Galbraith, Spagnolo and Pinto (2007) document the decline in inequality in post-crisis Argentina and Brazil, showing a close relationship between the decline of economic inequality and the falling share of resources captured by the financial sector.

## 6. Inequality and the Functional Distribution of Income

Giovannoni (2008) provides a treatment of the relationship between structural change, personal income distribution and the functional distribution of income, which is defined as the labor (and conversely, capital) share of income in total GDP. Unfortunately, despite the

central importance of this theme to the history of political economy, usable data for cross-country and time-series comparison remain rare, and for practical purposes restricted to member states of the OECD. Nevertheless, several interesting points emerge.

Giovannoni finds that the wage share in the Eurozone has been declining slowly since a peak in the early 1980s, and has fallen approximately ten percentage points in the intervening quarter-century, with noticeably sharp declines in some countries in the wake of the Maastricht Treaty. The wage share in the United States, though initially lower, has remained approximately constant during the same period, and is now higher than in the Eurozone.

While coverage of developing countries is not a strength of the OECD data, the information for Mexico and Turkey indicates that for these countries, labor shares in total GDP are much lower and much more volatile than in the richer countries, and prone to decline sharply in times of economic crisis, as in Mexico after 1982 or Turkey after 1991 and 1999.

These results suggest that in at least some circumstances the functional shares and the structure of earnings distributions are closely related, and that both are quite closely related to macroeconomic conditions. Economic crises tend to raise unemployment, shift the share of income toward capital, and worsen the distribution of pay. In a final analysis, this cannot be greatly surprising. A financial shock, such as an international move to high interest rates, is a tax on debtors for the benefit of creditors. It will deplete effective demand, curtail employment, and also cut hours worked disproportionately for those at the bottom of the pay scale. All these adverse phenomena should move together, and evidently

they do. Conversely in boom times employment, the wage share and distribution of earnings all improve. In this context, it is worth noting again that while US *income* inequality rose sharply in the late 1990s, this is not true for inequalities in the structure of American *pay*: pay inequalities declined as the economy moved toward full employment, and as the low-wage workforce was able to increase weekly hours and supplement earnings with overtime. Most generally, Giovannoni's findings underscore the importance of economic policy to the functional distribution, and they illustrate the role of geographic proximity – neighborhood effects – whose presence in inequality data we take up next.

## 7. Neighborhood Effects in the Movement of Inequality

A major virtue of the UTIP data— as shown in Figure Two— lies in the ability to trace the movement of inequality across and between countries to common sources in the international economic environment. In numerous recent papers we have established the existence of common global trends, associated particularly with the change in global financial regime: especially the collapse of Bretton Woods in the early 1970s and the onset of the debt crisis and the era of high real interest rates in 1981. Further, the data have permitted an analysis in detail of the effect of external financial shocks – especially exchange rate shocks – on inequality in a range of developing countries in Latin America, Asia and Africa.

There is, however, a level of interdependence that lies between the common response to

worldwide changes (say in commodity prices or financial conditions) and the idiosyncracies of national political and policy change. This is the level of the regional neighborhood, the common influence of a country's condition on that of its neighbors, and also the tendency of the international financial community to treat developing countries as large groups (Latin America, Asia, and so forth), so that the reputation of any member of a set is influenced by the conduct of its neighbors.

The UTIP data are sufficiently rich and deep to permit evaluation of regional patterns, especially from the early 1970s onward, although presenting the results effectively requires color-coded maps that cannot be reproduced here. The exercise strongly illustrates the presence of common regional and time patterns in the inequality data. Thus in the period from 1970 through 1976 -- the time of the first major oil shock and commodity boom, encompassing the breakdown of the Bretton Woods system in 1971-73 -- there is a striking regional pattern: the major oil-consuming countries, from North America to Europe to India, all show the effects of the supply shock and subsequent recession as generating increasing inequality; meanwhile inequality is falling in the booming oil producing economies of North Africa and the Middle East. In Latin America, the recycling of petro-dollars to the (military-governed) Brazil and Argentina produced a secondary boom environment and, again, declining inequality for those countries at that time.

The picture changed with the onset of the global debt crisis in the early 1980s. Inequality continued to rise in the OECD countries, by and large, mired as they were in industrial

recession. But now the most rapid rises in inequality were in the southern cone of Latin America and (to the extent the data permit us to observe) sub-Saharan Africa— ground zero of the debt calamity. Significant exceptions occur, on the other hand, in Asia: in China, which was financially autarkic at this time, in India, which largely restricted its international lending to the long-term concessional facilities of the International Development Association, and in revolutionary Iran. As the pivot of world inequality in the 1970s appears to have been the price of oil, in the 1980s it was the price of money.

Extending the analysis into the 1990s, we span the collapse of the Soviet Union and of communism in Eastern Europe. Although again in this period inequality is rising throughout most of the world, the region of greatest relative increase now shifts to these formerly communist lands. Inequality also rose very rapidly in China, where the government embarked on policies of liberalization and decentralization, leading to the large relative gains already illustrated for the exporting province of Guangdong, for the financial center at Shanghai, and for the national capital at Beijing. Again, the world exhibits one area of significant exception: Southeast Asia, where a boom driven by foreign direct investment permitted inequalities to fall until the Asian crisis of 1997 supervened.

The strong evidence of regional and neighborhood effects underlines the power of global financial markets, of commodity price regimes and of changing political systems to influence and indeed to dominate the movement of economic inequality as experienced by most of the world's population. It suggests that independent policy options are an extremely

limited and weak source of countermeasures to these phenomena, particularly for small countries. Although large developing countries, such as China and India, have continued to benefit from control over capital flow and other policy instruments, the age when most countries could insulate themselves entirely from the forces of global capitalism appear to be largely in the past.

All this suggests that the issue of economic inequality, both within and between countries, needs to be considered as an issue of international governance, at least at the regional level, if not also at the level of the globe as a whole. It is strongly influenced by structures of regulation of financial and commodity markets and by the conduct of monetary and financial policy in the rich and powerful countries. Though the evidence is far from complete, there are good reasons to suspect that following 2001 the developing world experienced a relatively benign financial climate, permitting relatively strong growth and the resumption of social progress in many places. That progress was called into question, of course, by the financial and economic crisis that began in 2007, which at present writing remains unresolved.

## 8. Conclusions.

This paper has attempted to provide a summary of comparative evidence on the evolution of economic inequality in the world, as developed over a decade under the auspices of the University of Texas Inequality Project. The results are broadly consistent with the insights



of Simon Kuznets, after taking into account both the great complexity of economic relationships in the modern world, and the increasing prominence of regional and global factors, and particularly the critical role of relative price changes in the global economy.

Broadly, the evidence supports the proposition that economic inequality is primarily a matter of inter-sectoral differentials, influenced in the long run by structural change and in the short run by changing inter-sectoral terms of trade. In China, fairly plainly, structural change over a generation has been the dominant factor. But in most of the world, it is the abrupt movements of the inter-sectoral terms of trade – including oil prices, interest rates and associated debt burdens – that have most fundamentally reversed the fortunes of poor people around the world. This suggests that governance of world financial and commodity markets – at the national, regional and global levels – and the conduct of global monetary and financial policy are critical, and perhaps under-acknowledged, issues in the struggle to control inequality -- and to build a fair, tolerable and sustainable world.

## References

Atkinson, A. B. and A. Brandolini 2001. "Promise and Pitfalls in the Use of "Secondary" Data-Sets: Income Inequality in OECD Countries as a Case Study." Journal of Economic Literature 39(3): 771-799.

Paulo Du Pin Calmon, Pedro Filipe Teixeira da Conceição, James K. Galbraith, Vidal Garza-Cantú and Abel Hibert, 2000. "The Evolution of Industrial Wage Inequality in Mexico and Brazil," Review of Development Economics, 4(2), 194-203, June.

Conceição, Pedro, James K. Galbraith, and Peter Bradford. 2001. "The Theil Index in Sequences of Nested and Hierarchic Grouping Structures: Implications for the Measurement of Inequality Through Time, with Data Aggregated at Different Levels of Industrial Classification." Eastern Economic Journal 27(4):491-514.

Galbraith, James K. and Maureen Berner, ed., 2001. Inequality and Industrial Change: A Global View, New York: Cambridge University Press.

Galbraith, James K. 1989. Balancing Acts: Technology, Finance and the American Future, New York: Basic Books.

Galbraith, James K., 1998. Created Unequal: The Crisis in American Pay, New York: The Free Press, 1998. A Twentieth Century Fund Book.

Galbraith, James K. 2007. "Global Inequality and Global Macroeconomics," Journal of Policy Modeling, Vol. 29, 587-607. <http://dx.doi.org/10.1016/j.jpolmod.2007.05.008>.

Galbraith, James K., 2009. "Inequality, Unemployment and Growth: New Measures for Old Controversies," Journal of Economic Inequality, Vol. 7, Issue 2, Page 189.

Galbraith, James K. and J. Travis Hale, 2008. "Wage and Income Inequality in the United States," in *Claves de Economía Mundial / (Keys to the World Economy)*, Madrid: Instituto Espanol De Comercio Exterior.

Galbraith, James K., Sara Hsu and Wenjie Zhang, 2009a. "Beijing Bubble, Beijing Bust: Inequality Trade and Capital Flow Into China" *Journal of Current Chinese Affairs/China Aktuell*, 2, 3-26.

Galbraith, James K., Sara Hsu and Wenjie Zhang, 2009b. "Political Regimes and Economic Inequality, 1963-2002: An Empirical Investigation with New Data" Draft.

Galbraith, James K., Ludmila Krytynskaia, and Qifei Wang, 2004. "The Experience of Rising Inequality in Russia and China during the Transition." *The European Journal of Comparative Economics* 1(1):87-106.

Galbraith, James K. and Hyunsub Kum, 2003. "Inequality and Economic Growth: A Global View Based on Measures of Pay" *CESifo Economic Studies* Vol. 49, 4, 527-556.

Galbraith, James K. and Hyunsub Kum. 2005. "Estimating the Inequality of Household Incomes: A Statistical Approach to the Creation of a Dense and Consistent Global Data Set " *Review of Income and Wealth* 51(1):115-143.

Galbraith, James K., Deepshikha RoyChowdhury and Sanjeev Shrivastava. 2004. "Pay Inequality in the Indian Manufacturing Sector, 1979-1998," *Economic and Political Weekly*, New Delhi, Vol.39, No.28, July 10, 2004, 3139-3148.

Galbraith, James K, Laura Spagnolo and Sergio Pinto. 2007. "Economic Inequality and Political Power: A Comparative Analysis of Argentina and Brazil," *Business and Politics*, Berkeley Electronic Press, (9) 1.

Galbraith, James K. and Vidal Garza-Cantu. 2001. "Grading the Performance of the Latin American Regimes, 1970-1995." in Galbraith and Berner, *op. cit.*

Giovannoni, Olivier. 2008. Functional Distribution of Income, Inequality and Incidence of Poverty: Some Stylized Facts, UNRISD Working paper (in draft).

Hsu, Sara. 2008. "The Effect of Political Regimes on Inequality, 1963-2002." UTIP Working Paper 53.

Kum, Hyunsub. 2008. "Inequality and its relationship with structural change", UTIP Working Paper 54, September.

Kuznets, Simon, 1955. "Economic Growth and Income Inequality", American Economic Review 45, 1-28.

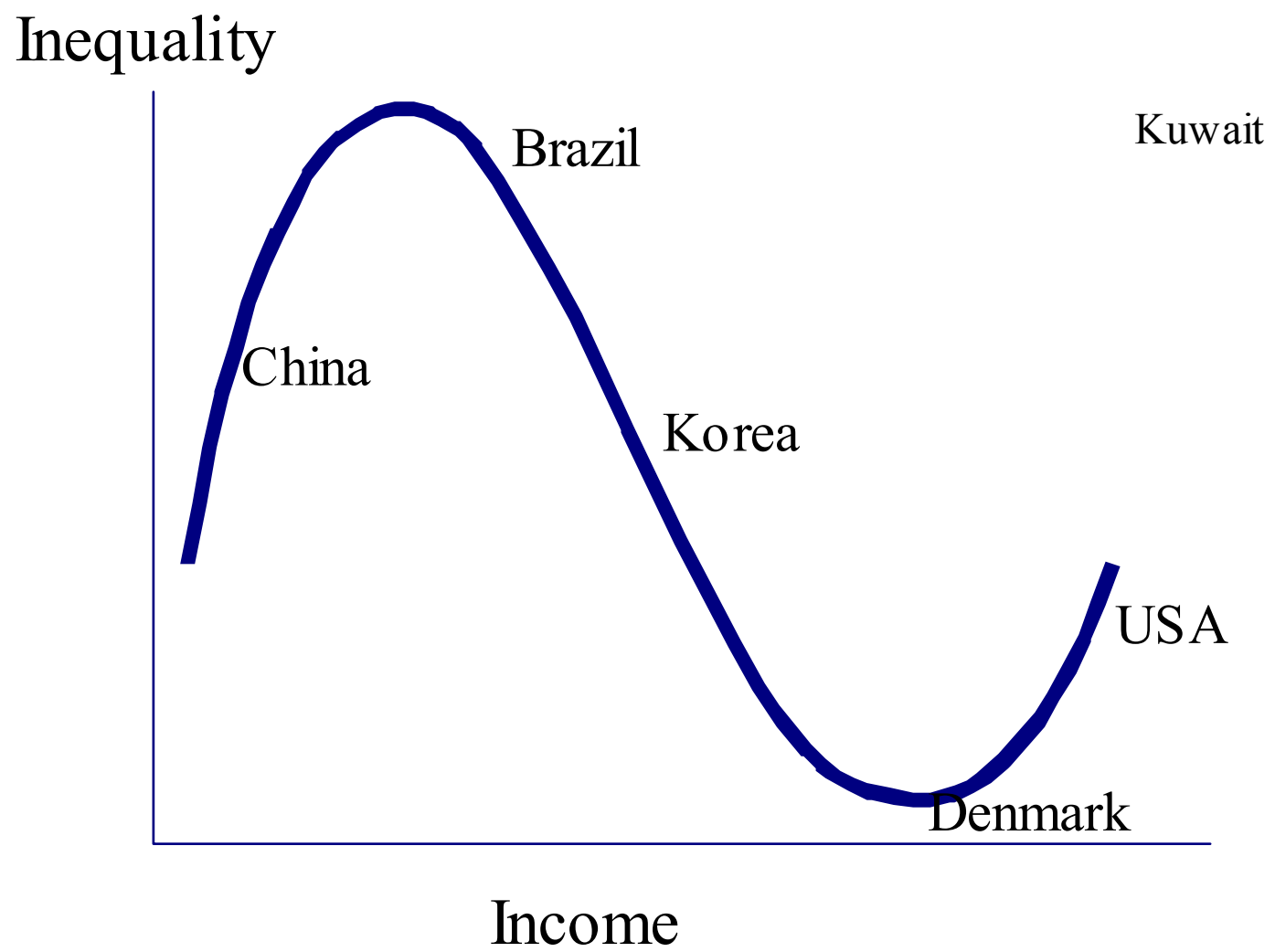
Milanovic, B. 2007. Worlds Apart: Measuring International and Global Inequality, Princeton: Princeton University Press.

Theil, H. 1972. Statistical Decomposition Analysis: with Application to the Social and Administrative Science, North Holland, Amsterdam and London.

\*\*\*\*\*

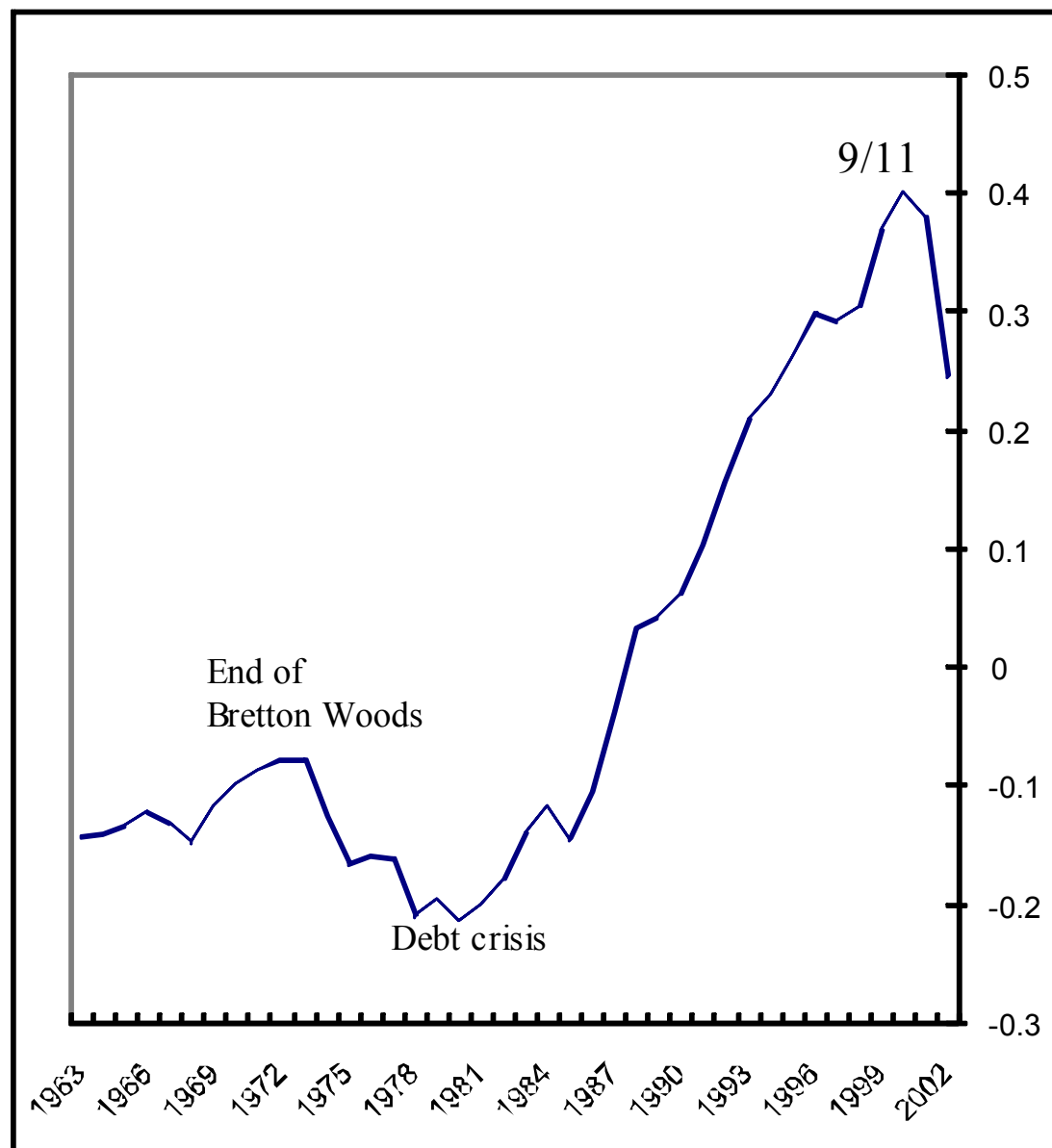
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Figure 1. Stylized augmented Kuznets curve, with selected countries in illustrative positions.



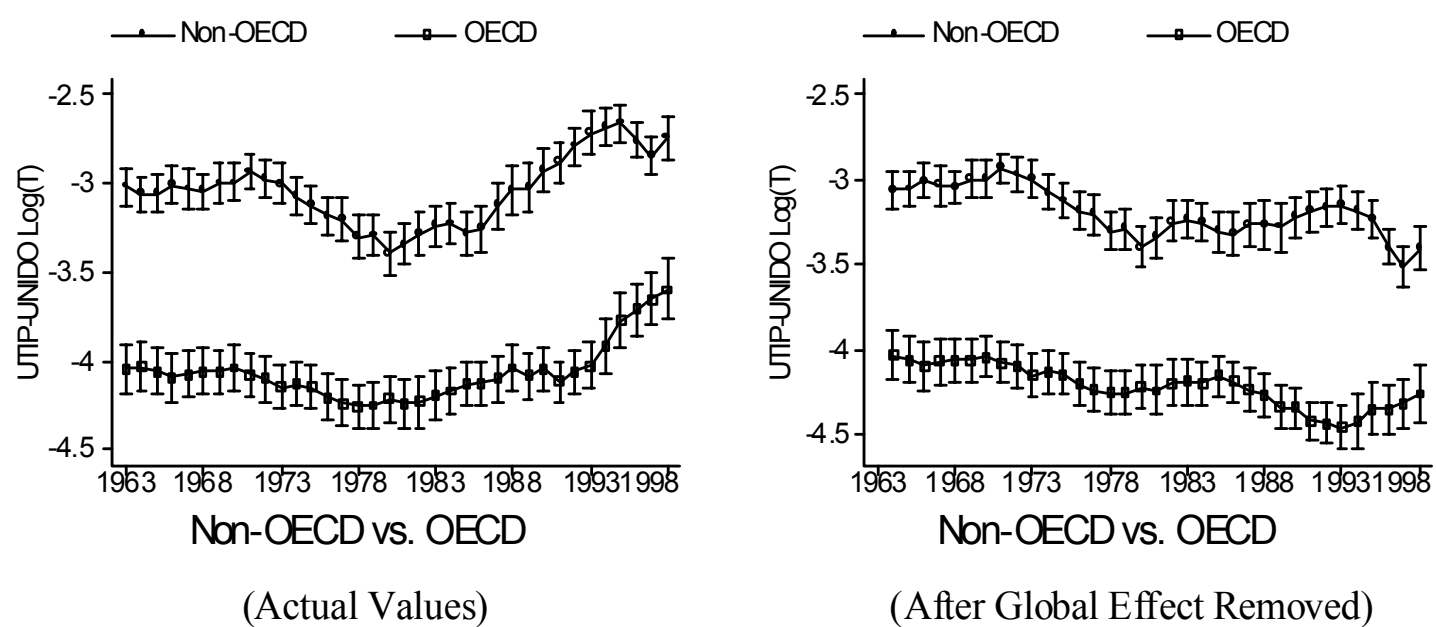
Source: Galbraith 2009.

Figure 2. Global time effect in two-way fixed effects panel regression on inequality in manufacturing pay, UTIP-UNIDO data set, 1963-2003.



Note: The vertical axis represents the common element in the movement of inequality, measured within-countries, across the panel of country-year observations. Vertical scale is  $\log(T)$  units. Source: Kum 2008.

Figure 3. Pay inequality within countries, with and without the global effect, UTIP-UNIDO data set, 1963-1999.



Note: Bands indicate two standard deviations of country observations within each year shown. OECD and non-OECD countries shown separately. Vertical scale is  $\log(T)$  units.

Source: Galbraith and Kum, 2003.

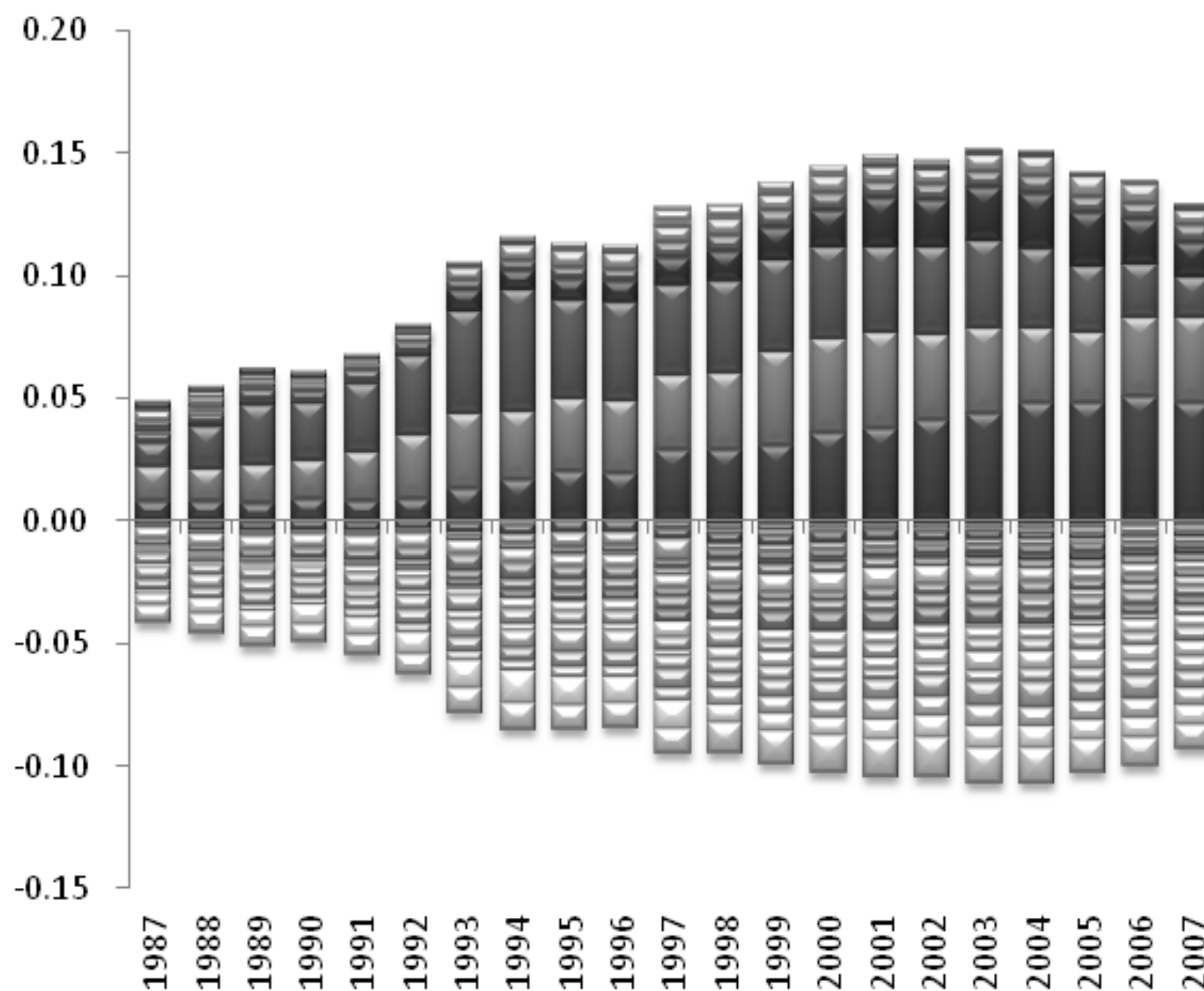
Figure 4. UTIP-UNIDO Inequality and the Share of Agriculture in Employment in Selected Countries, 1979-2003.



Source: Author's calculations from data in Kum (2008).

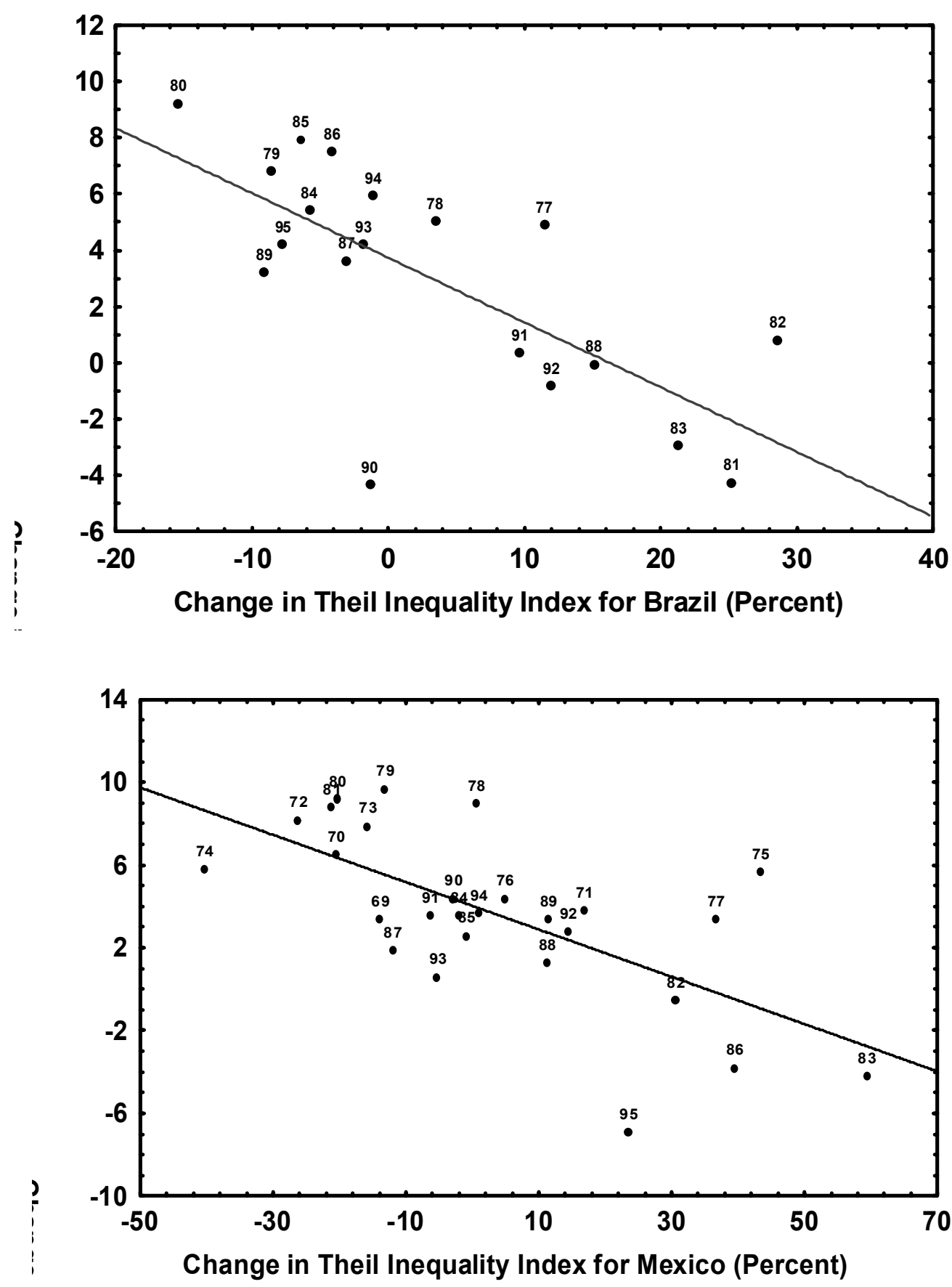


Figure 5. Contribution of provinces to inter-provincial inequality in China, 1987-2006.



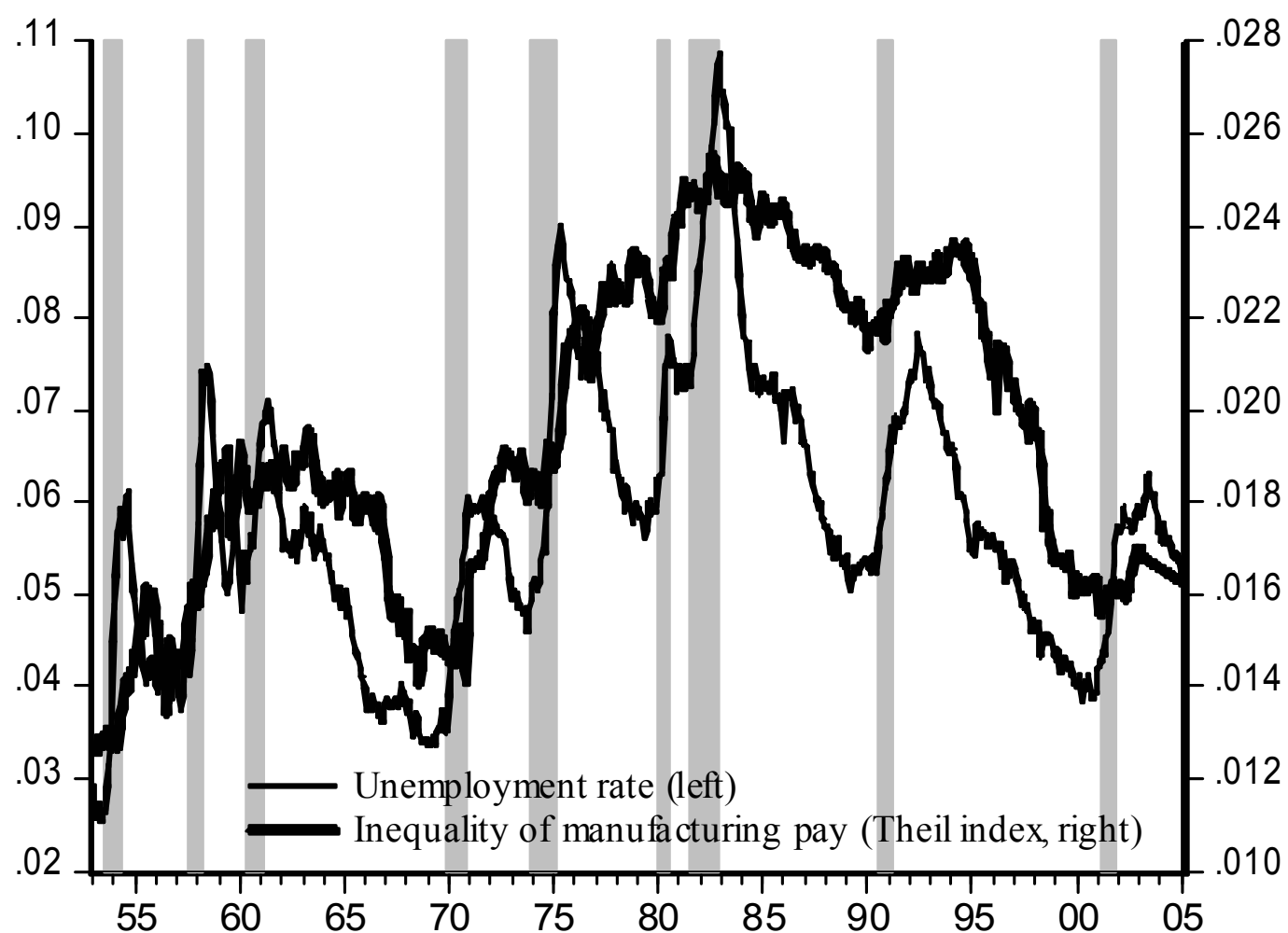
Note: The bar segments represent elements of the Theil index, specifically the population weight times the ratio of average sector pay to country average pay (times the log of the same ratio). Thus above-average-pay sectors show positive values, those with below average pay show negative values. The three large bars rising above the zero line are, in order, Beijing, Shanghai and Guangdong and the figure illustrates their dominant role in the rise of inequality in China. Theil's T is the sum of the bar values for that year. Data from China State Statistical Yearbook. Source: Galbraith, Hsu and Zhang, 2008.

Figure 6. Changes in pay inequality and economic growth in Mexico and Brazil



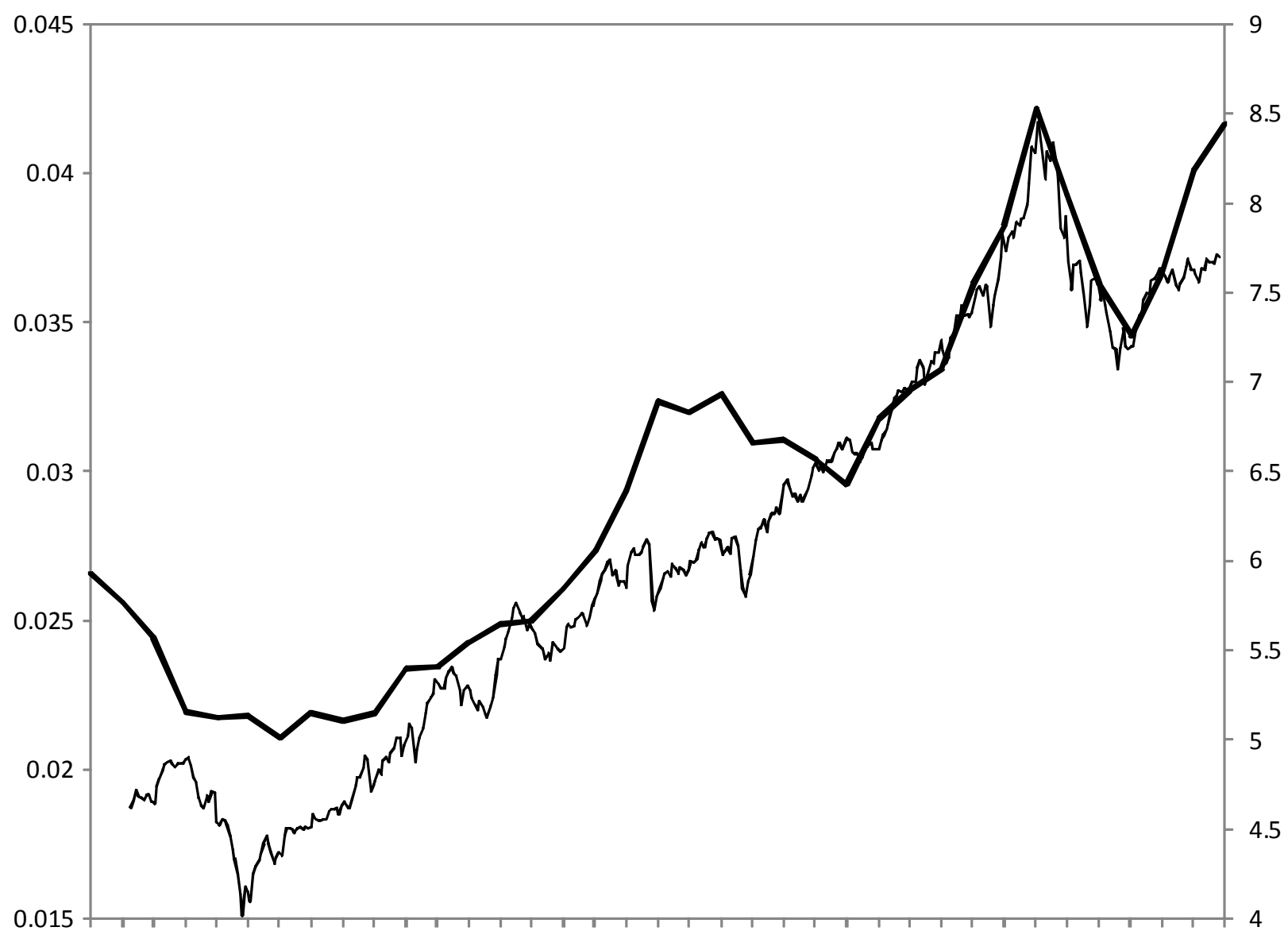
Note: The figures illustrate the strong negative relationship between growth and inequality in two important middle-income countries. Vertical unit: percentage change in GDP. Inequality calculations from national data sets. Source: Calmon *et al.* 2000.

Figure 7. Monthly Manufacturing Pay Inequality and Unemployment in the United States, 1953-2005.



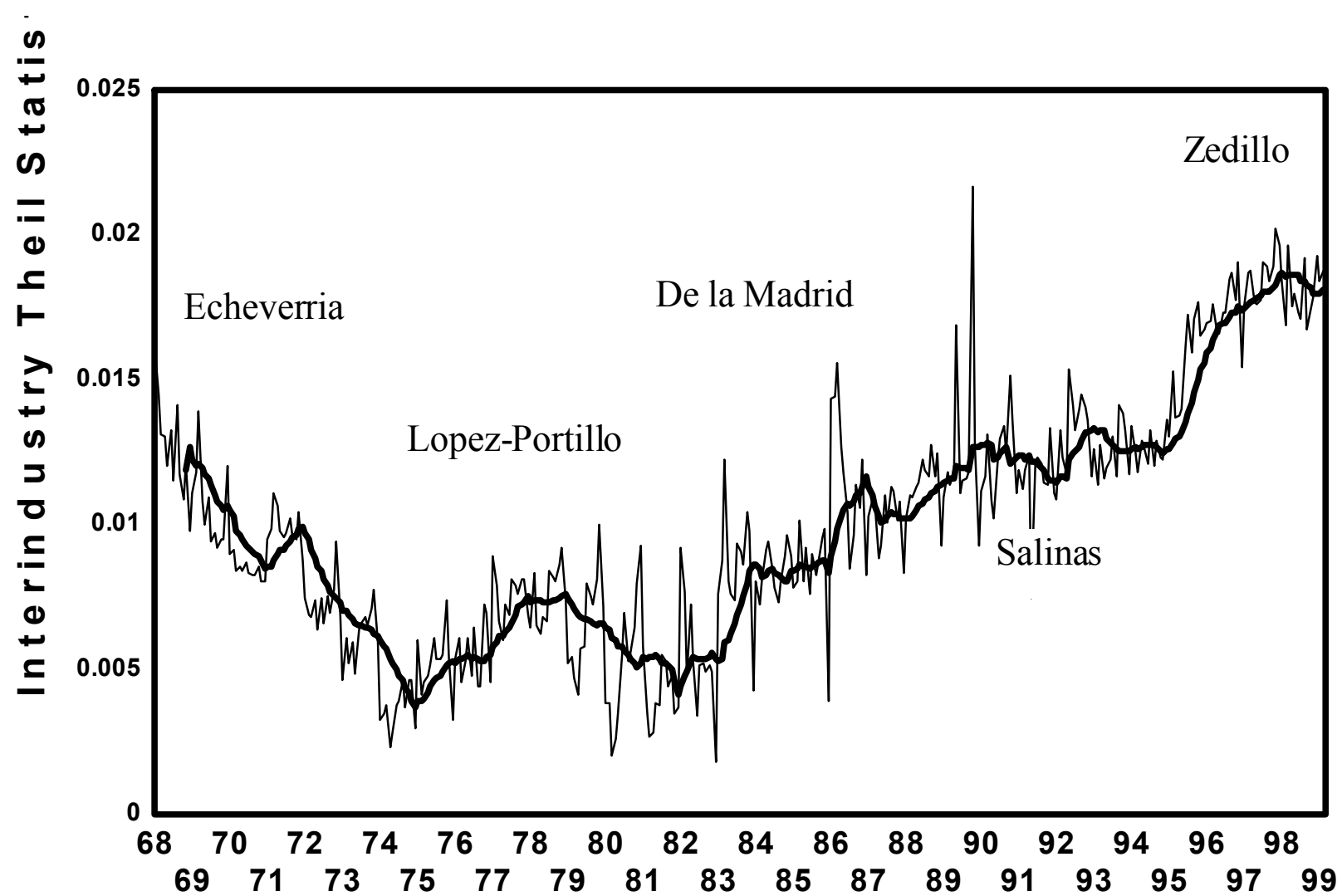
Note: The movement of pay inequality in manufacturing and of the open unemployment rate are closely associated in the United States, probably for the simple reason that weekly hours and earnings are more variable, and strongly pro-cyclical, for lower-paid workers. Recessions are indicated by grey lines. Inequality calculations from BLS, Employment and Earnings. Source: Galbraith 2009.

Figure 8. Between-county measure of income inequality and the log of the NASDAQ stock index, United States, 1969-2006.



Note: Left scale, Thick line: The between-county component of income inequality, annual data, calculations from Local Area Personal Income Statistics. Right scale, thin line: log of the NASDAQ stock index; monthly closings. Source: Galbraith and Hale, 2008.

Figure 9. Monthly and annual change in pay inequality in Mexico, 1968-1999.



Note: Monthly changes are given as the high-frequency thin line; annual changes are a centered moving average of the same data, given as the thicker line. Extreme monthly changes are a feature of periods of crisis in Mexico. Calculations from national data sets. Source: Calmon *et al.* 2000.

## NOTE

1. Theil's T statistic is one of a family of generalized-entropy measures of inequality, the only type that can be exactly decomposed. According to Theil, the between-groups component of the T statistic can be thought of as an indirect measure of the information required to transform prior into posterior probabilities, where population weights for each group are the priors and income shares are the posteriors.