# Wages and Productivity: The Missing Link

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For more than two decades, increasing the return on equity has been the supposed recipe for achieving successful growth. During this time, income inequality disappeared from the radar screens of economists. Yet, one of the most unexpected effects of the global financial crisis has been the resurgence of the issue of income inequality not only as a social concern but as a significant cause of the 2008 crisis. This tentative connection is an opportunity to think deeper about: the origins of the crisis; its similarities and differences with the Great Depression; the addition of the European sovereign debt crisis to the American private sector debt problem; and the avenues we should explore to find an exit to the intractable difficulties we continue to face three years after the crisis.

This essay first examines the literature on U.S. inequality and the 2008 crisis. It looks at inequality from an international perspective and takes the inequality paradigm one step further. Inequality is actually the social result of economic forces at work in the labor or goods market and of redistribution policies. Increasing inequality is a symptom of income distribution, not redistribution, and is a primary economic issue. This essay argues that the wage-productivity relationship is the major force shaping the present global economic outlook with its deflationary dangers and huge external imbalances. The essay concludes with a few policy observations regarding the economic variables the G-20 should consider when trying to achieve more stable and sustainable global growth.

## Income Inequality and the Financial Crisis

The United States experienced two major financial crises over the past century, the Great Depression of 1929 and the Great Recession of 2008. Both were preceded by a spectacular acceleration in the distribution of credit and a sharp increase in the debt-to-GDP ratio.[2] This explosion of credit has been rightly associated with the excesses of monetary policy—too lax for too long—and with the effects of financial innovation and deregulation, which allowed the accumulation of hidden risks.[3] Part of the literature further explored the underlying forces which have created the roots of this policy mismanagement. Most striking is the suggested link between household indebtedness and income inequality—"let them eat credit"—as summarized by Rajan.[4] Statistical data by Piketty and Saez on the concentration of income gains at the very top level (1 percent or even 0.1 percent) of the income distribution in the U.S. are truly striking and became the foundation of a new conventional wisdom on the role of increasing inequality in the run-up to the 2008 crisis.[5] The story goes like this: wealth was being captured at the top of the ladder, median wages stagnated, the middle class had to borrow to keep spending despite stagnant income, increasing poverty at the bottom pushed politicians into maneuvering the financial incentives to lend to insolvent households. For a time, rising asset prices masked the unsustainability of the household debt but after home prices reached their peak in 2006, the inevitable consequence was the financial bust. Kumhof and Rancière offer an elegant model of this argument.[6] Their model not only captures very important stylized facts of the run-up to the crisis, but it also offers a coherent vision of their connections: wage moderation and debt increase for the middle class (95 percent of households), savings and accumulation of newly packaged financial assets by the wealthy. The first question that this raises is if inequality is the *ultima*

*ratio* of a globalized economy. International comparisons are seemingly supporting this hypothesis but they also raise a different question.

## Worldwide Income Inequality

A recent report by the Organization for Economic Cooperation and Development notes that, during the two decades prior to the onset of the global financial crisis, the gap between the rich and the poor widened in most nations.[7] The report's findings show that across OECD countries the average income of the richest 10 percent of the population is nine times that of the poorest 10 percent. Additionally, with the exceptions of France, Japan and Spain, the wages of the 10 percent highest paid workers have risen relative to those of the 10 percent lowest paid workers. Increases in household income inequality have been largely driven by changes in the distribution of wages and salaries, which account for 75 percent of household income for working age adults as well as capital income for the wealthiest. In short, practically everywhere the highest 10 percent of earners have been leaving the middle earners behind more rapidly than the lowest earners have been drifting away from the middle. Did similar inequality increases produce similar political and financial answers?

The Gini coefficient, for example, similarly increased from 0.33 to 0.38 in the U.S. and from 0.30 to 0.35 in Germany, but there is nothing similar in the way these two countries behaved and performed in the decade before the crisis. It is hard to believe that "liberal America" was the only country aggressively fighting increasing inequality while "social democratic" Germany let inequality develop without reaction. A story based on inequality clearly does not capture the whole picture. Before exploring this question, let us note that this recent OECD report confirms previous findings by the International Labour Organisation which studied the evolution of global employment through the prism of inequality.[8] The main finding of the study was that, despite a substantial economic development across most regions, globalization had resulted in the widening of income inequality across and within countries. The rich-poor gap has widened post-globalization as nearly two-thirds of the countries studied have experienced an increase in income inequality between 1990 and 2005. This means that workers gained less from economic growth. The research also found that in 51 out of 73 countries, the share of wages in national income declined over the past two decades; this is confirmed by OECD statistics that show a decline of the share of wages from 63 to 58 percent for 15 major OECD countries.[9] Let us now focus on considering the link between income distribution and economic cycles.

## Income Distribution and the Business Cycle

For more than two decades, the success of the real business cycle theory has made all other approaches of the cycle a thing of the past. But we now face an unexpected situation. We have witnessed the reality of an XXL cyclical instability. The real business cycle theory does not provide any help if we want to assess the role of income distribution in the run-up to the crisis and more importantly in the search for an exit. As far as the income distribution is concerned, it remains natural to refer to the fascinating model offered in 1967 by Richard Goodwin that elegantly relies on the Volterra equations governing the reproduction of two predator-and-prey species.[10] When the second is abundant, the first prospers and grows, progressively exhausting its resources and conversely. These interdependencies are properly modeled through differential equations where the variation of a variable depends on the level of the other. Goodwin worked on the interaction between long-run growth and business cycles; he applied the Volterra methodology to the wage-profit relationship. It is easy to see why the *variations* of both wages and profits depend on the *levels* of the other variable. For example, when the profit share is high, investment and employment are high so that strong wage increases will depress profits and ultimately employment thus reversing the initial situation. This suggestively makes fluctuations

endogenous to the economic system. At the root of such cycles is the wage-earners' bargaining power, which drives the change in income distribution. In the Kumhof-Rancière model, the real wage equals the marginal product of labor times a "bargaining power" coefficient. This coefficient is modeled trough an auto-regressive stochastic process, which makes the model simple and tractable. The bargaining power initially declines—a hypothesis in line with what we know about previous decades: erosion of the power of unions, competition from low-wage countries, and a possible technological bias against unskilled workers. Why does this coefficient start to rise again after 10 years (in the baseline scenario) remains unclear. This leaves open the question we are facing now, what forces will push the economy durably upwards after a severe recession? Appropriate price signals, investment opportunities, expectations? Reflecting on the fact that those factors could be blocked, Martin Wolf recently exposed the risk of the present "great contraction" extending over time.[11] Anyway, we have now good reasons to confirm that income distribution matters.

## The Disrupted Wage-Productivity Nexus

The disconnection between productivity gains and real wage increases is a common feature among major economies since the 1990s. In the U.S., this disruption has been extensively documented. Similarly, according to data collected by Patrick Artus, the real wage per capita in Germany and Japan remained flat between 2000 and 2008 while productivity increased by 10 percent during the same period.[12] Productivity was severely hit in 2009 and strongly recovered in 2010 while real wages remained flat, significantly increasing the wage-productivity gap. In other words, the share of wages in the national income of major industrialized economies has significantly declined. This is also a well-known characteristic of China's development; the share of household income in the GDP of China could have fallen from 52 percent in the mid-1990s to 45 percent in 2010.[13] However, due to the increasing share of profits in national incomes, the world is fundamentally facing a situation characterized years ago by Ben Bernanke as a savings glut (amplified for different reasons by the high savings rate of major oil-exporting countries).[14] We lack at this stage a precise and coherent set of data to summarize the discrepancy between the two sides –production and absorption- of the world GDP and filling this gap should clearly be an important addition to the G-20 indicators.[15] Anyway, according to Artus' approximate but striking calculations, the savings rate of the global private sector could actually have increased from 25 percent in 2000 to as much as 32 percent 10 years later. In short, the disconnection between wages and productivity is at the root of a durable global excess savings which is a major source of the increasing difficulties of the world economy.

## Wage Formation, Final Demand

An era of a declining wage-share in world GDP is a typically Keynesian situation, the realm of insufficient final demand. Certainly, adjustments are supposed to operate on other sides; one can, for example, argue that capital markets flooded with profits will adjust at lower interest rates at which we expect other elements of demand take the relay of wage consumption. Recent experience shows both the validity and the limits of those substitutes. As we previously analyzed, this sort of adjustment played a very unexpected role in the U.S. It would be foolish in this case to link the wage-share compression to a situation of under-consumption.[16] But what made the U.S. so far away from under-consumption is precisely anything but the product of a natural market adjustment. The transformation of the U.S. wage-restrained consumer into the world consumer of last resort over the past decade relied on Promethean financial artifacts, which proved unsustainable. It is plausible to analyze 2001-2007 as a period of hidden deflation (remember the actual threat of deflation from 2002-2003[17]), successfully avoided by an extraordinary fiscal and monetary activism. The accumulation of private debt of declining quality eventually triggered the crisis. At that stage, the depression of final demand called for direct public support to household incomes leading to the unsustainable public deficits and debt

governments are now trying to control. The reality beyond both the financial crisis and increased income inequality is a distorted income distribution and the way the flow of final demand was artificially sustained in order to push back the inevitably coming downside of the cycle. In short, the Bush-Greenspan policies of the past decade linked up two successive upwards phases of the business cycle; it should come as no surprise that, in a figurative sense, we are now paying the price with a twofold contraction.

## How to Exit a Severe Depression?

Economic policies have been battling for three years to exit this crisis. The 2009-2010 recovery was brilliant but common sense suggests that the global economy at the end of 2011 is not out of the woods. A reference to U.S. economic history before and after World War II can be instructive. The experience of the 1930s demonstrates how difficult it is to manage the economy out of a depression or even of a "great contraction". The main lesson is that there is no evident market reaction restarting private final demand. This is what Keynes more forcefully introduced in economic thinking: in a depression, when the economy is far below its potential, expectations are clouded by the levels of underutilization of resources, labor and capital; economic agents have left the comfortable world of quantifiable risk and entered in an era of radical uncertainty.[18] Activity is paralyzed and remains narrowly dependent from public support. The episode of the aborted recovery in 1937 recalls how dangerous it is to prematurely try to balance the budget when the private sector is still fighting with the legacy of a depression.[19] It is sometimes asserted that the U.S. economy did not really escape from the depression before the war. But the war itself did not eliminate the question of productivity gains and income distribution, on the contrary. Huge productivity gains had been made in the manufacturing sector during the war, wages had remained strictly controlled and purchasing power had declined. This is the contradiction which had to be solved to base on solid foundations the long-term post-war phase of growth. How did this start? After the war, president Truman faced social demands calling for wage increases restoring prewar living standards. Walter Heller, at that time a young economist promised to play a prominent role in the Kennedy and Johnson administrations, produced the figures demonstrating the reality and the magnitude of these discrepancies. Wages were actually lagging by more than 15 percent. Following massive strikes, Truman decided that the federal government would recommend to businesses to increase wages by 33 percent which would prove beneficial by raising capacity utilization and investment opportunities.[20] Businesses unwillingly agreed and thus launched the post-war growth period. What businesses, economists and the rest of the world discovered at that moment was the deep truth of a well-known Ford catchphrase: "pay your workers well, they will buy your products". Not true for a company but powerful at the macroeconomic level. Are we facing this sort of "Ford moment" again? Definitely, but the problem today is made more complex by the fact that it is not domestic but international in nature.

## Global Imbalances, Regional Imbalances

We now turn to the world of today, a world composed, to simplify of China, Germany, the U.S. and Greece, a world with countries garnering huge surpluses inevitably facing countries digging into huge deficits. What does the previous analysis teach us regarding this situation? The two countries where the disconnection between wages and productivity has taken the purest form are China and Germany. With wages lagging beyond productivity, these countries have low geared domestic demand that could easily have engineered deflationary pressures. They successfully avoided them thanks to aggressive export strategies that require adequately growing markets. In a world of generalized competition toward decoupling wages and productivity, this condition has been met under precarious conditions, demand in deficit countries being more and more propelled by external financing. It is striking to observe the similarities of those two situations. China and Germany for years produced both the goods and the financing of their major

clients, the U.S. and Greece or more broadly speaking European deficit-countries including France; about France, one will interestingly observe that this is practically the only OECD country with no income inequality increase or wage-share decline. Lately discovering that the situation they so directly contributed to creating was unsustainable, the surplus countries expressed alarm and criticism. For example, the Chinese premier as well as the German chancellor called the American and Greek governments to repentance. But Jeff Frieden precociously and rightfully explained that there had never been a solution to this sort of contradictions without the surplus country taking part of a painful adjustment.[21] Surplus countries have a natural tendency to emphasize the virtues that produced their spectacular results. On the other side, it is difficult to defend those who went into unlimited profligacy through financial artifacts (the U.S.), tax and spending disorder (Greece) or lack of structural reforms (France). The hard truth of this sort of tango is finally that those who were the two to practice virtue and vice need to be the two to find the exit. The summer of 2011 has provided a vivid illustration of these contradictions with the debt ceiling debate and the downgrade of the U.S. debt on the one side and the failed European agreement to rescue Greece and the spillover of the sovereign crisis onto the European banks on the other. The epicenter of the financial turmoil has been reached and this will be the main challenge facing the G-20 Cannes Summit.

## Conclusion

This essay started from the recent literature connecting the financial crisis with increased inequality in the U.S. We extended the survey to the major economies and focused attention on the more fundamental relationship between real wages and productivity. One of the major consequences of globalization has been to disconnect these two variables and this has consequences going much further than the subprime crisis. Wages significantly lagging beyond productivity explains three major features of the world economy today: first, the underlying threat of excess-savings fueling deflationary pressures; second, an increased dualism between countries with either massive surpluses or deficits; third, a fragile and temporary solution to deflationary pressures in the surplus countries by their continuous but more and more problematic financing of their clients' deficits. Would this summary offer a reasonable picture of the world economy today, this would naturally have important consequences for the coordination of economic policies within the G-20 framework. But recommendations are not easy to formulate; there is no "one-size-fits-all" solution— a difficulty that makes the G-20 framework particularly appropriate.

Three suggestions could be formulated like this:

1. *Principle*. The G-20 should recognize that the question of income distribution is a major part of the policy debate. We made clear that this conclusion was neither the fruit of social considerations nor an attempt at finger pointing surplus or deficit countries nor an unnecessary infringement of national preferences. Willing to improve stability and sustainability worldwide, governments and central banks should not be concerned exclusively by public finance, monetary policies or balance of payments. They should place the two aspects, production and absorption, of global GDP into a common framework.

2. *Methodology*. Would a political agreement be reached on the previous question, Treasuries and the International Monetary Fund should be asked to develop appropriate indicators and models focusing on the wage-productivity nexus with a view to offering a precise assessment of the situation and suggesting where, how and how much each country could introduce correcting forces oriented toward a more stable outlook. As far as wages and productivity are concerned, a connection between the IMF and the ILO should be established.

3. *Tactic*. As a first step, the G-20 Cannes Summit could renew its traditional call in favor of a more balanced growth trajectory in the different regions by injecting part of the previous considerations into the communiqué and launching the search for another set of indicators under the Mexican presidency.

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## Endnotes

[1] Head of economic studies at IFRI (Institut Français des Relations Internationales), nonresident senior fellow at Brookings
[2] See, for example, Gordon (2005).
[3] Friedman and Solow (2010).
[4] Rajan (2010).
[5] Piketty and Saez (2003).
[6] Kumhoff and Rancière (YEAR).
[7] OECD (2011).
[8] International Institute for Labour Studies (2008).
[9] OECD (2008).
[10] See Goodwin (1967) and Tarassow (2010).
[11] Wolf (2011).
[12] Artus (2011).
[13] Artus, Mistral and Plagnol (2011).
[14] Bernanke (2005).
[15] A suggestion detailed by Derviş (2011).
[16] See the discussion by Glaeser (2010).
[17] Bernanke (2002).
[18] This point has been recently made by Posner (2010).
[19] Romer (2009).
[20] I found this spectacular story in Sunstein (2004).
[21] Frieden (2009).