# The dilemma of “currency wars” and “trade wars” as a strategy to leave the crisis behind: the impact of different unit labor costs on developing nations

**Assoc.Prof.Dr.Mehmet Şişman**

**Marmara University-Istanbul, Turkey**

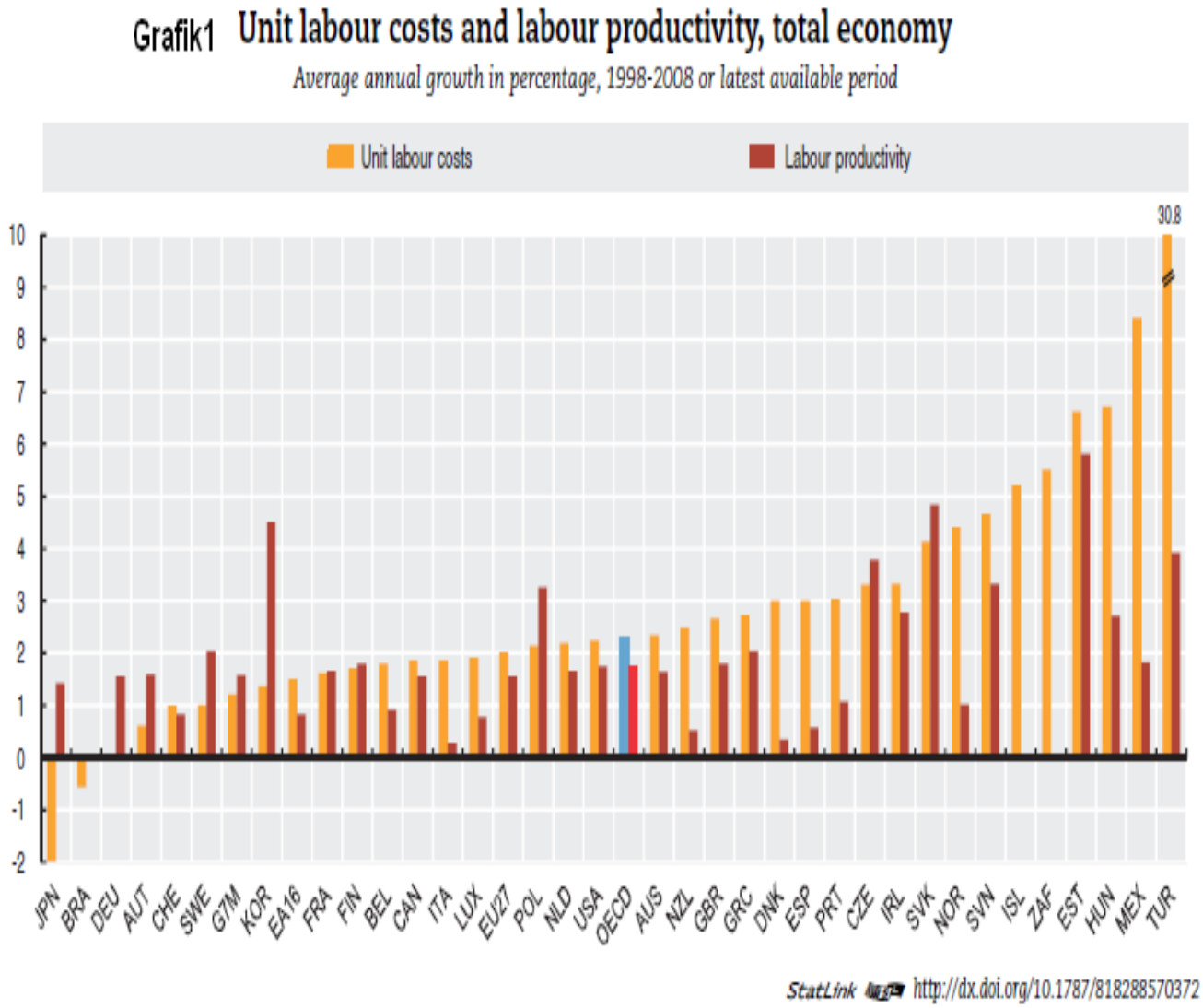
**mehmetsisman@hotmail.com**

**Jel code: F16, F01, F31, F33, F59**

The developments that took place since the beginning of the global crisis indicate that the comparison of unit labor costs of different economies would have a continuously growing impact. Unit labor costs and/or relative differences in unit labor productivity as a determinant of international competition – particularly in case of manufacturing– also constitute the basis of real and effective exchange rate calculations by various agencies. In this respect, it is possible to ponder over the question of trade and currency wars among both within the bloc of developed countries of the center, and among the developed countries and developing and emerging nations (see Graph 1). The graph comparing the unit labor costs and labor productivity of OECD members in the 10 year period preceding the crisis (see Graph 1) shows that local unit labor cost in dollars increase substantially. Since putting annual average unit labor costs in US Dollars in the period of 1998-2008 reflects the valuation of local currencies against Dollar, it can also be used as a measure of real exchange rate

Electronic copy available at: http://ssrn.com/abstract=1970564

increase. Hence, it is no wonder that currencies of countries such as Turkey (with a unit labor cost of approximately 7 times the labor productivity), Mexico and Hungary are so highly valued in comparison with Dollar.




Source: OECD factbook 2010.

The reason lies in the fact that these countries have faced substantial short-term capital inflows. Outside OECD, Brazil and China are also examples of countries

Electronic copy available at: http://ssrn.com/abstract=1970564

facing the impact of short-term monetary infusions. This trend explains why developing countries are now imposing measures associated with tight monetary policies. The objective of the present study is to analyze the grounds and potential outcome of quantitative tightening in developing countries.

## The Lack of an International Monetary System: "Currency Wars" and Potential "Trade Wars"

Four important overall results of neo-liberal economic reforms since 1980 and of globalization have been;

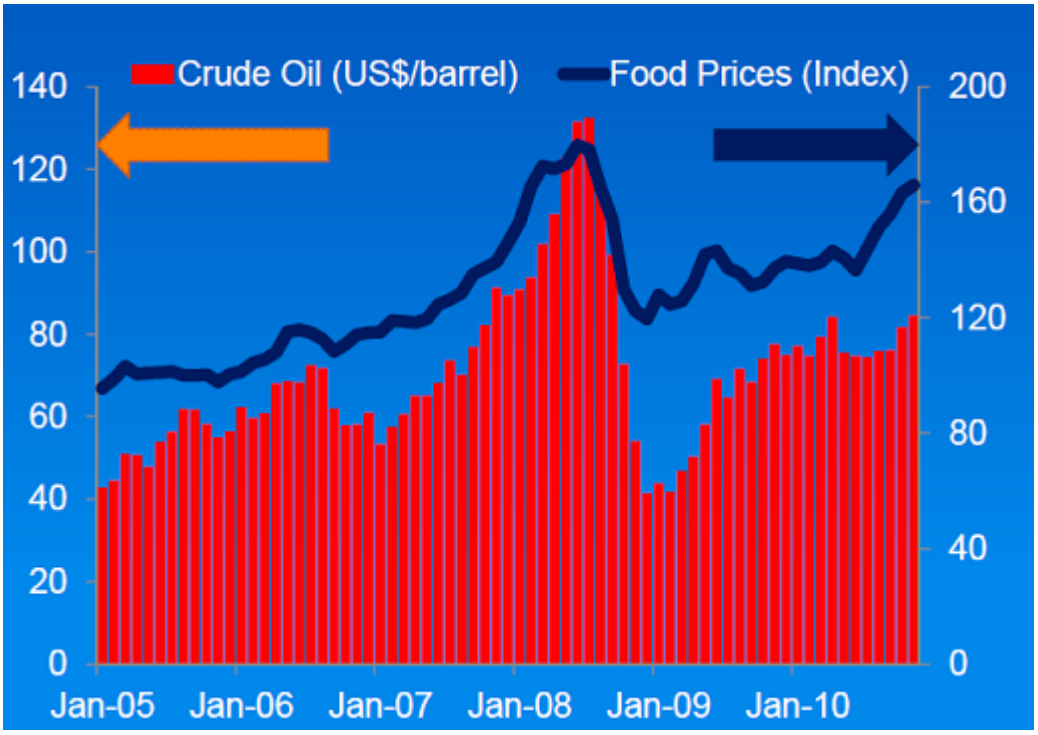
- a strong increase in the volume of world trade
- a gigantic increase in speculation
- a strong increase in the grey economy
- a strong increase in the services economy, especially financial services of all kinds (business services, banking, real estate, insurance, consultancy etc.)

The increase in all four dimensions is only possible through free movement of money in the international arena. The fourth result, the increase in financial services and the globalization of neo-liberal financial capital (services), also reinforced the uncertainties regarding the exchange rates to arise out of the increase in all four dimensions. Price hikes in oil, gold and other commodities (IMF, WEO 2011, p. 23) indicate that the

globalization trend dominant in the global trade is more and more under the influence of unfair competition practices such as speculation and grey economy.

Short-term flows of financial capital with its ripple effect is also capable of increasing exchange rates and emphasizing the differences in unit labor costs in Dollars. Yet, the reverse is also the case: differences to arise out of varying unit labor costs in the international arena are also affected negatively by the capital flows caused by excessive global liquidity, which reignites the previously eroded competition, in turn leading to problems in determining exchange rates. Moreover, political strategies and political economy, through events such as civil commotions taking place in Africa and Middle East, have an impact on commodity prices such as oil and food, creating political risks for global economic upturn (see Graph 2).

Graph 2: The trend regarding Oil and Food prices

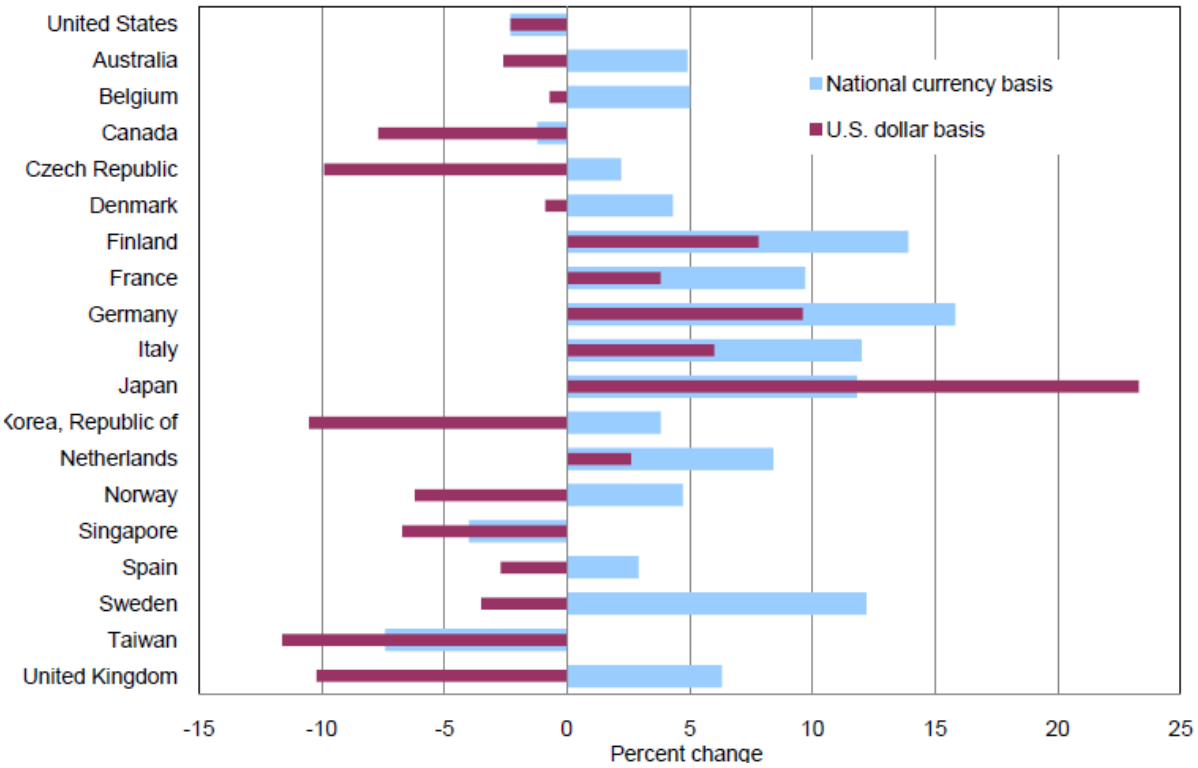



Source:IMF, WEO, 2010.

Hence, as indicated by Graph 3, the gap in unit labor costs, particularly the gap between real exchange rates in US Dollars and real exchange rates in local currencies grew. One particular feature grabbing attention in Graph 3 prepared by BLS of US is the fall of the value of Dollars in the developed world in the aftermath of the great recession of 2008, causing a fall in the unit labor costs in dollars in comparison to increasing labor costs in local currencies; in other words leading to a suppressing effect in countries other than Japan. Already falling labor costs of Canada, Singapore and Taiwan fell even further once the costs are calculated in Dollars. In a nutshell, the fall in the value of dollar exhibit an impact on developed countries, serving to lower unit labor costs. This facilitates support for Quantitavie Easing (QE) 1 and 2 in this group of countries. Would a

possible QE 3 receive the same support? It is not very probable for countries facing rapid inflows of short-term capital.

Graph 3: Unit labor costs in manufacturing (%), 2008-2009

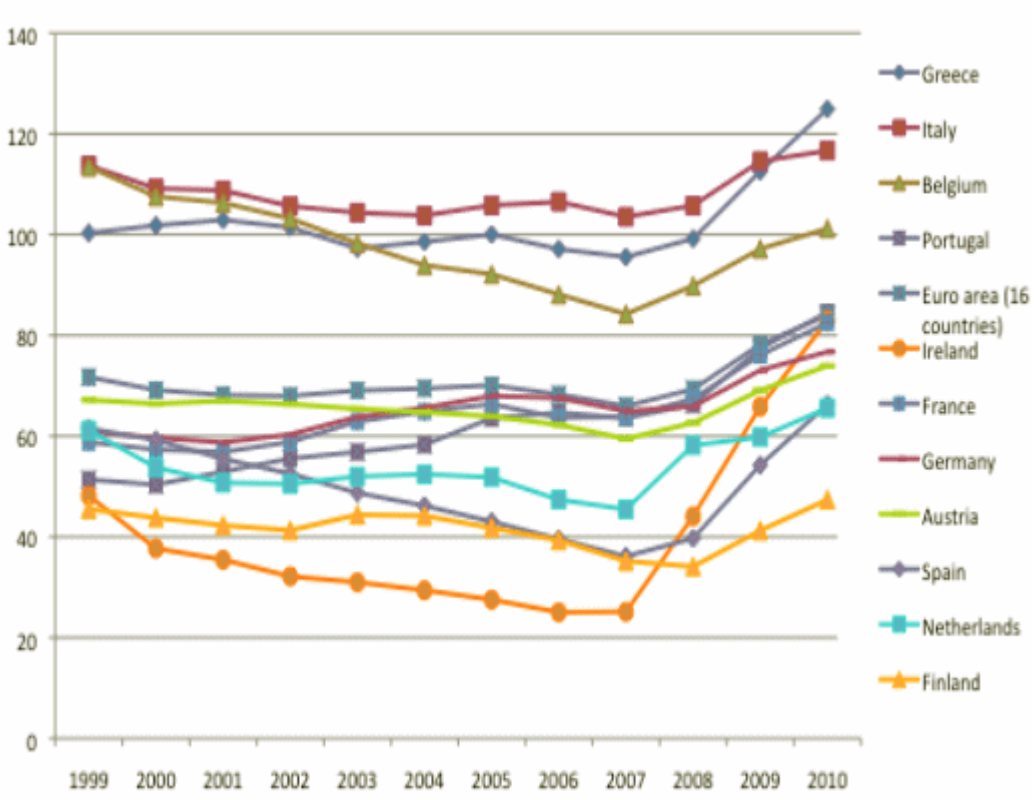



Source: Bureau of Labor Statistics (BLS), http://www.bls.gov/news.release/pdf/prod4.pdf 25 April 2011

The quantitative easing policies adopted by the center, and most of all by the US and EU, as means to leave the crisis behind led to quantitative tightening in the developing world. Release in the US of amounts reaching 1.7 trillion Dollars since 2008, reinforced with an additional easing package amounting to 600 billion Dollars (QE2), which is currently being used in 75 billion

Dollars installments for the 8 months period from November 2010 on. The European Union, in its turn, has established a joint fund to help ease the debt-related problems faced by member states. In the process that began with Greece, Ireland, Portugal and Spain are also considered as high-risk countries in terms of debt obligations (see graph 4).

Graph 4:General government consolidated gross debt

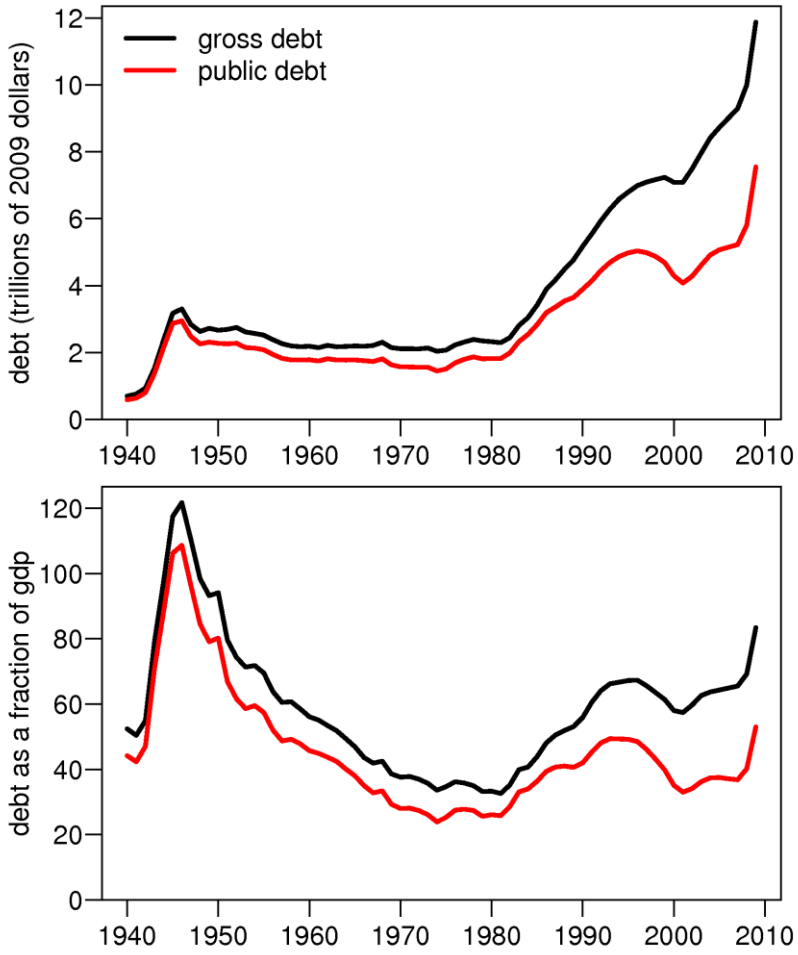



*Source: European Commission, AMECO*
http://www.voxeu.org/index.php?q=node/5062

Since public and household debt ratios in the US, and the trade deficit and the unemployment problem (%8,9) of the country requires a low value for the Dollar, (see Graph 5-6), US Fed interest rates approximate 0,25%. Arcand, Berkes and Panizza relate this

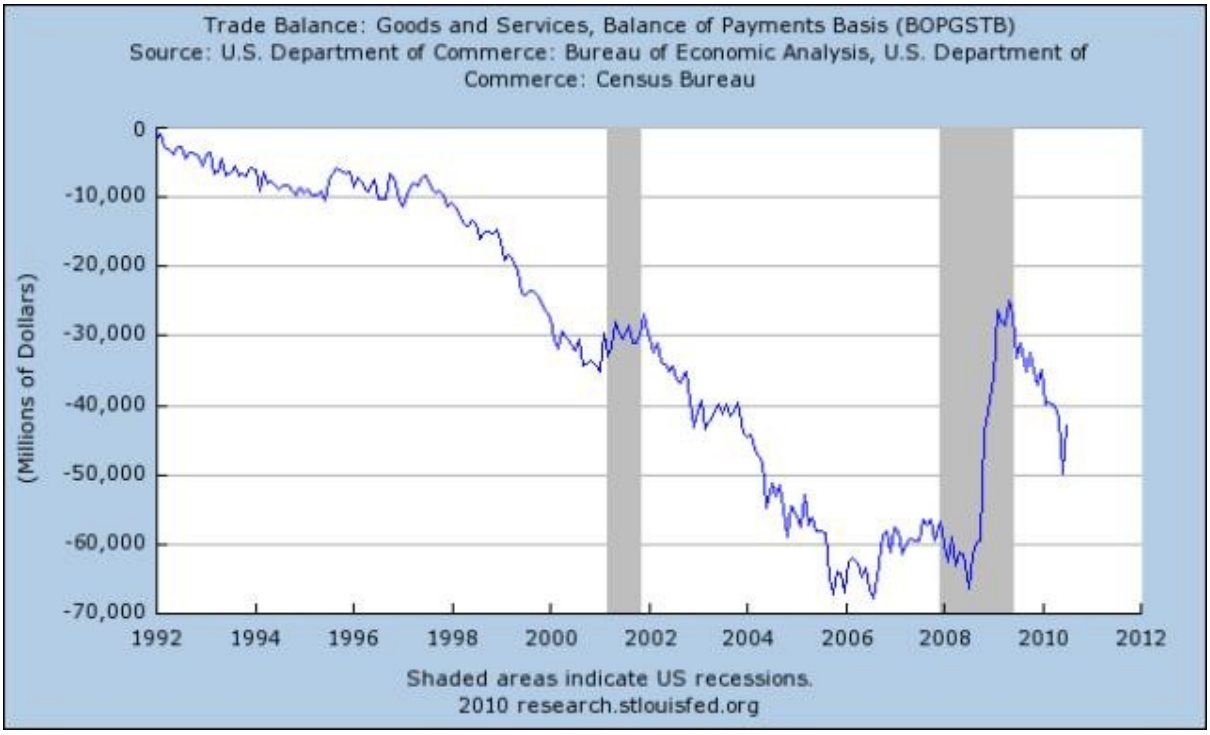
phenomenon with extensive growth in finance, amounting to six times higher growth rates compared to nominal GDP growth of US in the past 30 years. According to Arcand, Berkes and Panizza, the fact that private sector loans in the US amount to 110% of GDP is an indicator of this problem. Similar trends unfold in other developed countries as well (2011).

Graph 5: Public debt and gross debt in USA




Source: http://www.edinformatics.com/investor_education/us_debt.htm , 25 April, 2011.

Graph: 6: Value of balance of payments in USA




According to Gerber, there are three primary factors determining currency supply and demand in the US: trade and direct investments, interest rate changes and speculation. Trade and direct investments, in turn, is dependent on three factors: business cycle, inflation and expectations of future growth (Gerber, 184). As long as the quantitative easing of monetary policy in the US continues and no tightening of fiscal policies is on the horizon, the expectations regarding business cycle and inflation shall display a rising trend. In case

developments to cause a negative "output gap" regarding future growth expectations for developing nations accelerate, the formation of new loan bubbles and a resumption of the effects of the recession in the developing world would be most probable. F. Mishkin underline that the exchange rates are determined by the interest rates differences in the short-term, and by inflation rate differences, the impact of tariffs and quotas, trade deficits, and productivity differences (Mishkin, 2000, p. 160). Once the conditions imposing exchange rates put pressure on interest rate differences among developed and developing nations in the aftermath of the crisis, the impact of long-term determinants of the exchange rates may be observed in action. In this respect, the most effective long-term determinant of exchange rates lies probably in the productivity differences. Hence, as argued above, the comparison of unit labor costs and unit labor productivity shall provide clues regarding developments.

## Theoretical and practical grounds for estimating exchange rates on the basis of unit labor costs or productivity

The question to be asked in respect of the international pricing of exchange rates is "what is value?" According to Guglielmo Charchedi, the value is produced by abstract labor performed in capitalist production relations, and measured in terms of money. Abstract labor refers to the cost of manpower, without

reference to a specific task to arise in production relations. In sum, the value is a product of labor, denoting, however, also the cost of abstract labor (Charchedi, 1991, p. 102). In other words, value realized through the production of a commodity using a piece of social labor should be equal to the value produced by extending production.

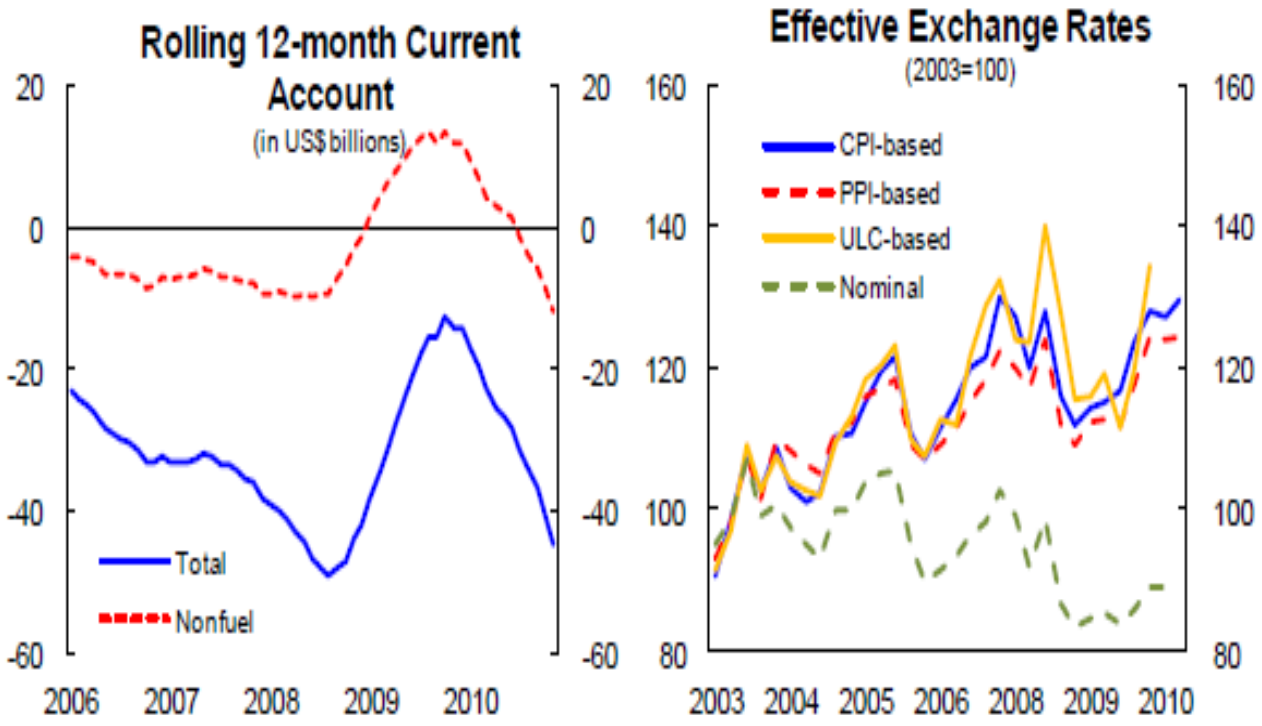
The exchange rate used in the transfer of international value is considered as a price in various theoretical arguments. In theory, exchange rate is determined with reference to purchasing power parity (PPP), covered interest parity and unit labor costs. As inflation rates in the post-1990 world took a plunge compared to the previous decade, the problems caused by using PPP in exchange rate estimations were understood better. For instance, the differences in the prices of non-tradable goods, differences in the quality of goods, inability of PPP to reflect productivity differences if they are not reflected on the prices, and the exclusion of transportation costs from PPP analysis are only some of the problems in PPP based estimations. PPP serves better to account for the developments in money and capital markets, since it is focused more on the differences in the price of goods across different countries (Pilbeam, pp. 157-159).

Harrod-Bela-Balassa is another version of PPP, used in exchange rate analysis on the basis of price differentials regarding tradable goods and non-tradable

goods. This theoretical approach is acceptable with a certain room for error, just as in the case of PPP. This is because the developments in international production and services network decrease the classificatory power of tradability of goods. Furthermore, and perhaps on a higher tone, the fact that transnational corporations (TNCs) directing the global trade operate under less than perfect competition, and that differences among labor markets can not be accounted for by PPP alone, requires the prioritization of indices emphasizing long-term labor costs instead of PPP.

Exchange rate estimations looking at interest rate parity are particularly useful in explaining flows between money and capital markets, yet are not of much use in understanding why certain economies hold more long-term competitive power, and the changes this competitive differential exacts on the exchange rates picture. Yet, indices built particularly on unit labor costs and explained with reference to a given currency (such as Dollars) make it possible to demonstrate the turns the real exchange rate takes in comparison to the nominal rates. As the example of Turkey reflected on Graph 7 shows, effective exchange rate indices based on the Consumer Prices Index (CPI) or Purchasing Power Parity (PPP) Index flow in parallel to the index based on unit labor costs (ULC). Nevertheless, in the recent period, ULC based index flies way above the nominal exchange rates.

Graph 7: Current accounts deficit and real effective exchange rates in Turkey



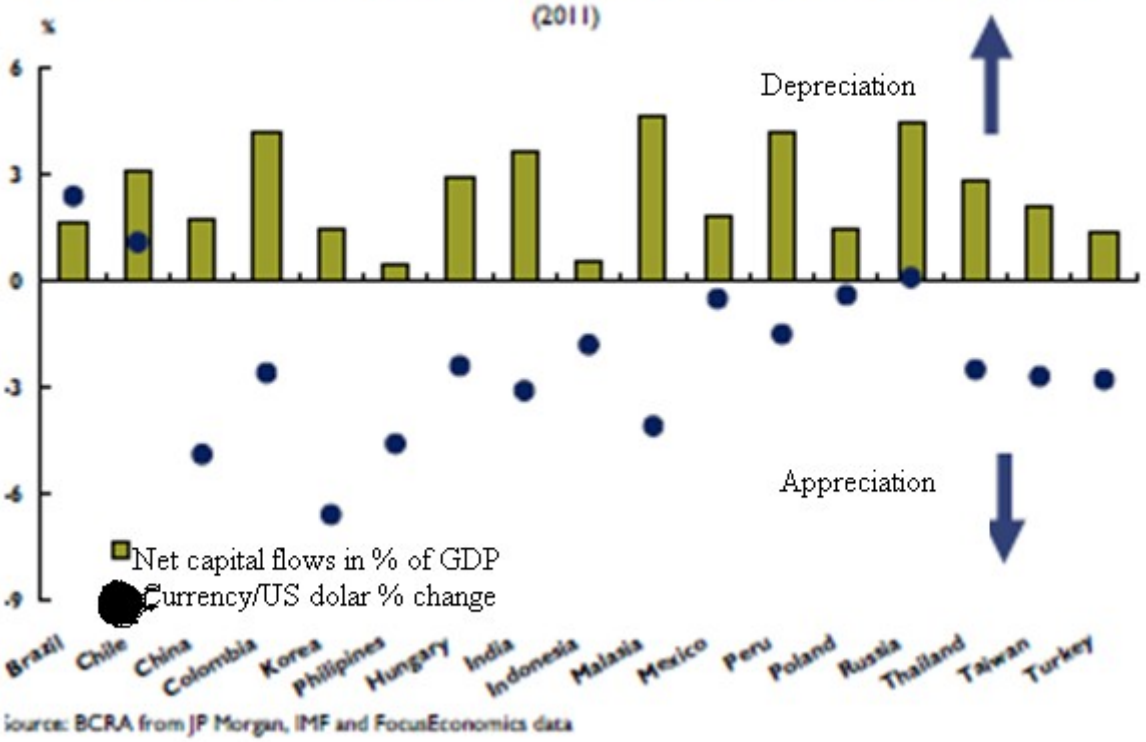

Sources: CBT; Turkstat; IMF, *Direction of Trade Statistics*; and IMF staff estimates.

Graph 8 displays the appreciation and depreciation caused in emerging countries by the capital inflows that took place in the early months of 2011. Currencies other than those of Brazil, Chile and Russia continue to experience appreciation despite controls imposed on capital movements.

Graph 8

**Emerging economies. Net capital flows and exchange rate evolution expectations**

(2011)



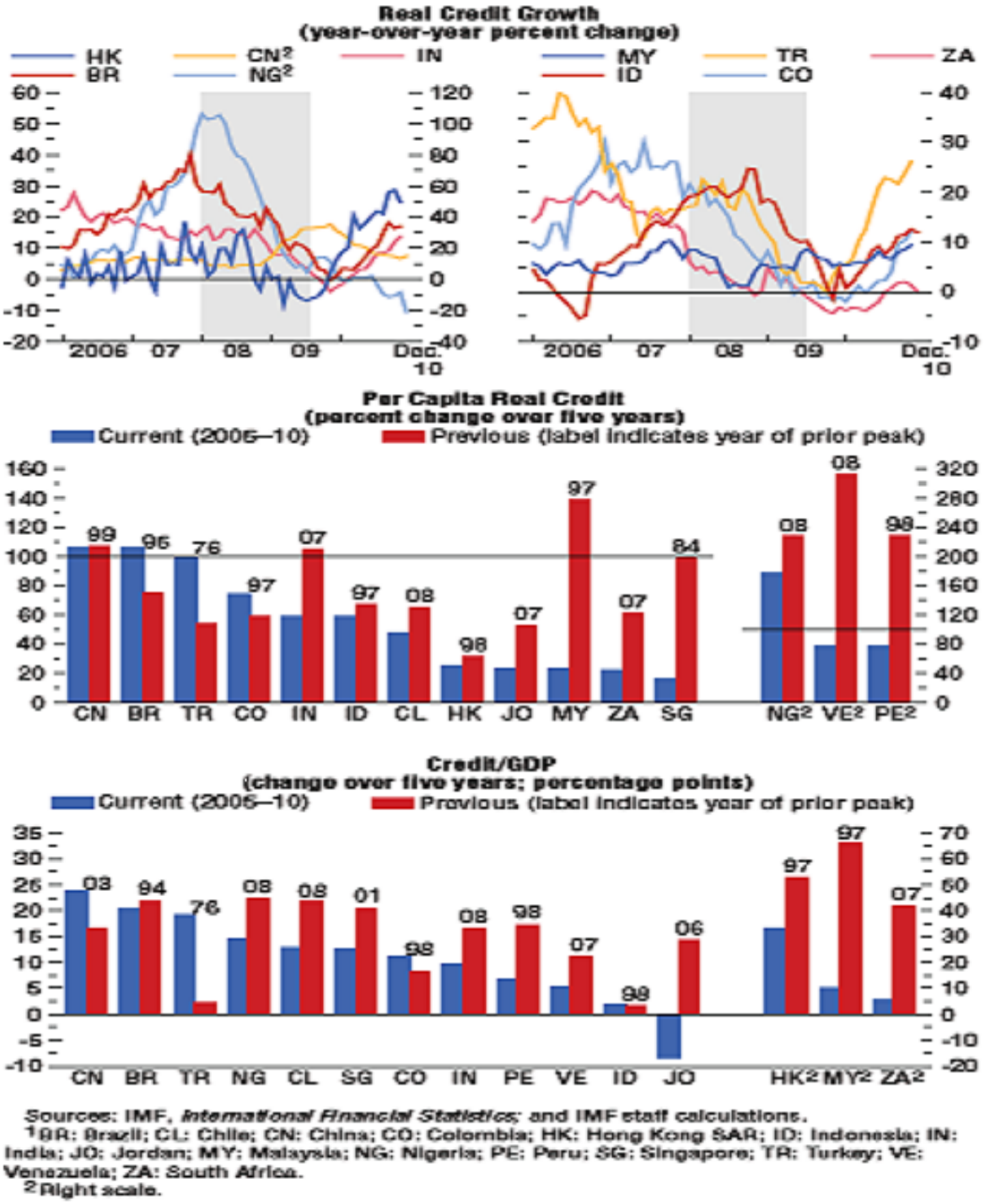

Source: BCRA from JP Morgan, IMF and FocusEconomics data

Further in Graph 9, it is evident that the 100% increase in per capita real credit in the five year period prior to and after 2005 in China is not about to come to an end. Moreover, the rate of total credits as a percentage of GNP of China demonstrated 150% increase after 2005, reaching to 25%. Turkey and Brazil also experiences a rapid expansion in credits in the period after 2005 (in case of Brazil, the trend was evident even before 2005). Malaysia, Venezuela and Singapore put the brake on credit expansion rates, while Nigeria could not do the same.

Graph 9

## . Emerging Market Economies with Strong Credit Expansion[1]

A number of major emerging market economies (EMEs) and a few advanced economies with close links to these economies feature very buoyant credit and asset price growth. The EMEs with such conditions account for about one-quarter of global GDP in purchasing-power-parity terms, or about half of EME output. Furthermore, these economies have been experiencing relatively strong credit growth for a number of years, raising concerns about the quality of this credit.



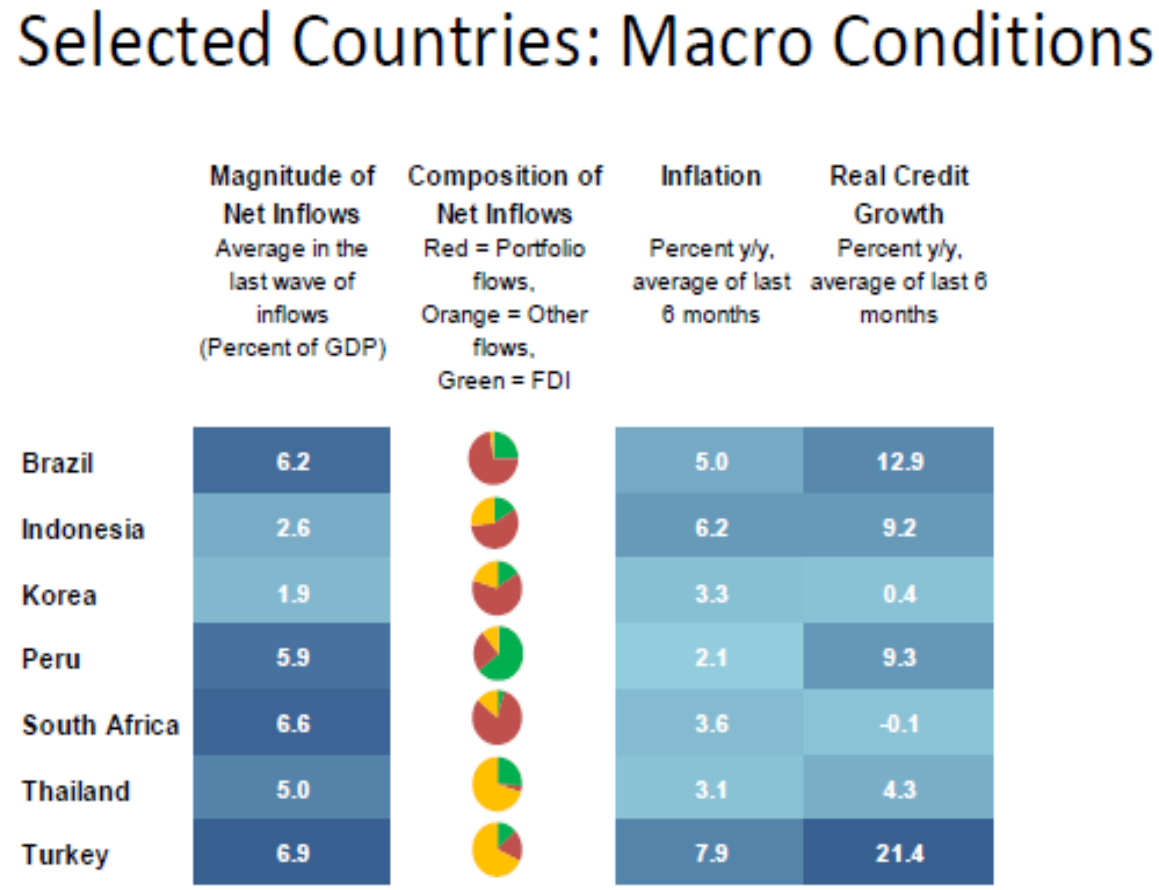

Sources: IMF, *International Financial Statistics*; and IMF staff calculations.
[1]BR: Brazil; CL: Chile; CN: China; CO: Colombia; HK: Hong Kong SAR; ID: Indonesia; IN: India; JO: Jordan; MY: Malaysia; NG: Nigeria; PE: Peru; SG: Singapore; TR: Turkey; VE: Venezuela; ZA: South Africa.
[2]Right scale.

Source: IMF, WEO, April 2011, p.39

It is evident in Graph 9-10 that Turkey, where the highest expansion of real credit took place, and where an increase approaching 30% in real exchange rate estimates on Dollars or in unit labor costs, is the scene of the highest influx of capital as of the early 2011. The increase in reserve requirement ratio led to a fall of FDI in Turkey, and accelerated the demand for domestic debt bonds of the government. This enabled the extension of the term of government borrowing, and a fall in interest rates. However, the Central Bank of Turkey maintains the tight monetary policies by increasing reserve requirement ratios even more, perhaps motivated by the fears of having a real credit bubble and an increase of inflation, which fell to 4% in March.

It is evident that the capital inflows in the period of 2005-2010 led to varying rates of increases in credit expansion rates in emerging economies. It is significant that the real credit expansion shown in Graphics 9-10 is mostly related with consumer loans. As Yılmaz Akyüz noted for China Daily, according to International Finance data, capital inflow into China is at an all time high of 227 billion Dollars. According to estimates of Chinese authorities, which are well-known practitioners of strict capital flow controls, one third of this amount is hot money. Despite the official reserves of China exceeding 3 trillion Dollars, the hot money flows caused the country have a small but telling deficit first time in 7 years (Akyüz, April 20, 2011).

**Graph 10**



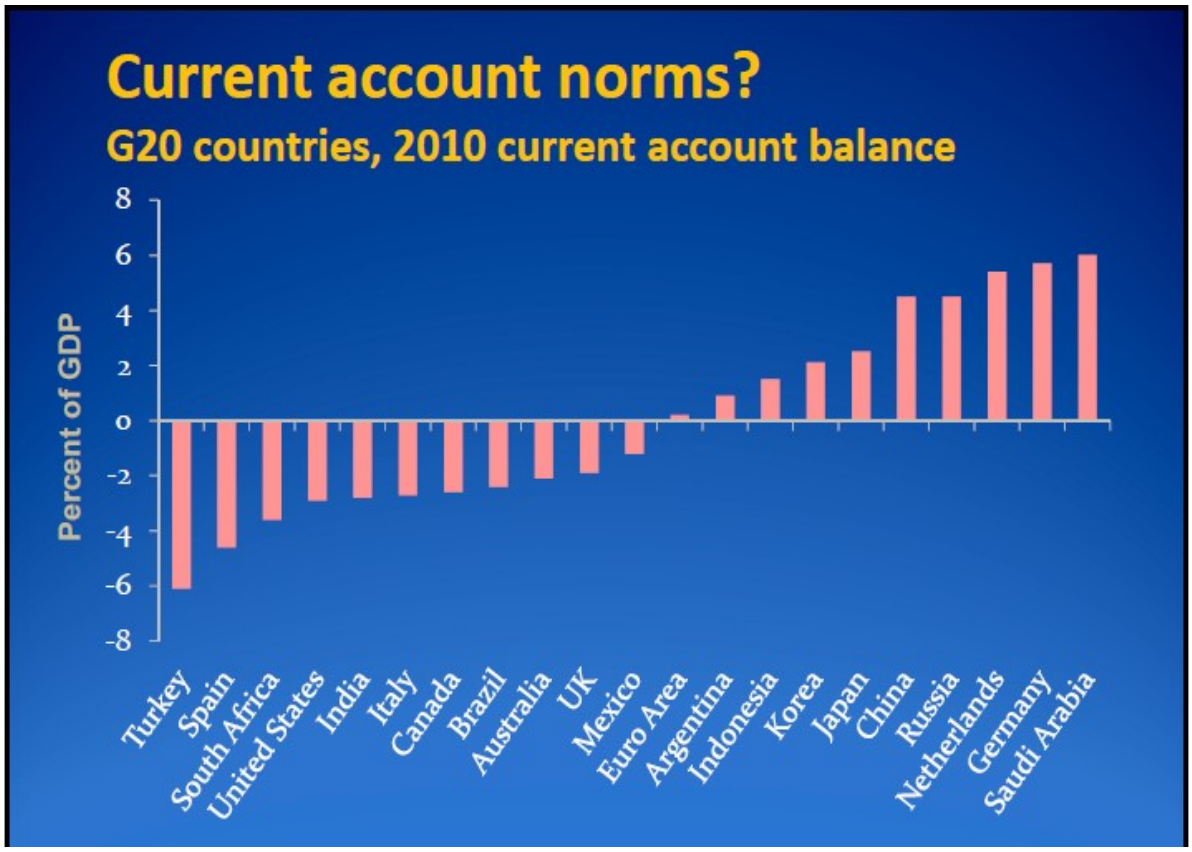

Source: Mogdaham, February 2011.

## Reaction of developing countries via the monetary policy: Capital controls

Guido Mantega, the Brazilian Finance Minister, said an international currency war threatened the country's competitiveness (By Ambrose Evans-Pritchard BST 29 Sep 2010). Since emerging economies such as Turkey had current account deficits when the recession hit, they now face it again in their way back into growth. The current accounts deficits amounting to 6-7% of GNP creates new risks for these countries, for it is bound to increase short-term capital inflows in comparison to

long-term inflows (see Graph 11). This is why the high levels of short-term capital inflows into Turkey causes the Central Bank of Turkey to dial down the interest rates (despite the risk of inflation) and increase reserve requirement ratios for bank deposits. As the examples of Brazil, China and Turkey attest, acceleration in the expansion of real credit leads these countries to increase reserve requirement ratios for short-term bank deposits. Reserve requirement ratio for short-term deposits in Chine was increased to 20.5% on March 25, 2011, while as of April 2011, Brazil and Turkey increased reserve requirement ratios for 1-month deposits to 20% and 16% respectively (tcmb.gov.tr). Furthermore, China and Brazil enforce even stricter capital controls. Since 2009, Brazil applies a tax (2%) in the same vein with Tobin tax, on short-term capital inflows. In spite of this tax, which had not done much good in the name of decreasing interest rates (around 12%), the capital inflows had not ceased (Talley, Cowley; 2011).

**Graph 11: Current account deficit and surplus in G20**




Although uncertainties still surround the idea that increasing reserve requirement ratios for bank deposits would help against the problems of countries facing current account deficits, currency appreciation rates were lower in Turkey, the country with the highest expansion of real credits, compared to other countries, as in Peru (see Graph 12). South Africa, where the highest level of currency appreciation took place, can be expected to increase reserve requirement ratios. Although Brazil does not face the big problem of deficits, and has a Tobin tax (2%) equivalent in place, the currency appreciation has reached 40%, most probably due to high interest rates (12%). In Indonesia, Korea and

Thailand, central banks increase policy interest rates, which lead to currency appreciation. Thailand is the country with the highest growth in reserves, followed by Korea and Peru.

**Graph 12:**

Selected Countries: Policy Responses

| | Currency Appreciation<br>Percent change in the NEER from the trough since the crisis | Reserve Increase<br>Increase in percent of GDP from the trough since the crisis | Monetary Policy<br>Change in policy rates in the recent wave | Fiscal Policy<br>Change in cyclically adjusted fiscal stance between 2009-10 | CFMs |
|---|---|---|---|---|---|
| Brazil | 38.4 | 6.0 | ↑ | ⟵⟶ | Yes |
| Indonesia | 19.4 | 7.4 | ↑ | ⟶⟵ | Yes |
| Korea | 17.5 | 10.7 | ↑ | ⟶⟵ | Yes |
| Peru | 5.6 | 9.0 | ↑ | ⟵⟶ | Yes |
| South Africa | 41.4 | 2.6 | ↓ | ⟶⟵ | No |
| Thailand | 9.3 | 22.3 | ↑ | ⟵⟶ | Yes |
| Turkey | 6.5 | 1.7 | ↓ | ⟵⟶ | Yes |

Source: Mogdaham, February 2011

According to the table 1 Cline and Williamson compiled by assuming Dollar as the fundamental equilibrium exchange rate, China, Malaysia and Taiwan sustain their undervalued currencies through interventions. China has the highest surplus in its trade with USA, which is a phenomenon to affect other emerging economies as well (Dooley and the others). On the other hand, countries such as Brazil, India,

Japan, South Africa and Turkey have exceedingly appreciated currencies despite the interventions by their central banks. In this picture, curious is the case of Mexico, which is considered to have an appreciated currency due to high increase in unit labor costs as shown in Table 1. Nonetheless, Mexico is found to have the equilibrium exchange rate in the real exchange rate estimation made with respect to the fundamental equilibrium exchange rate as per the CPI based index. The resolution of this contradiction shall only be possible to extend unit labor costs based calculations in exchange rate estimations on the grounds described above. Poland, which is stuck with a deeply appreciated currency in Table 1, a currency even beyond the means of intervention Poland has, should not have an appreciated currency according to the unit labor costs analysis based on Graph 1, for labor productivity is higher than labor costs in Poland.

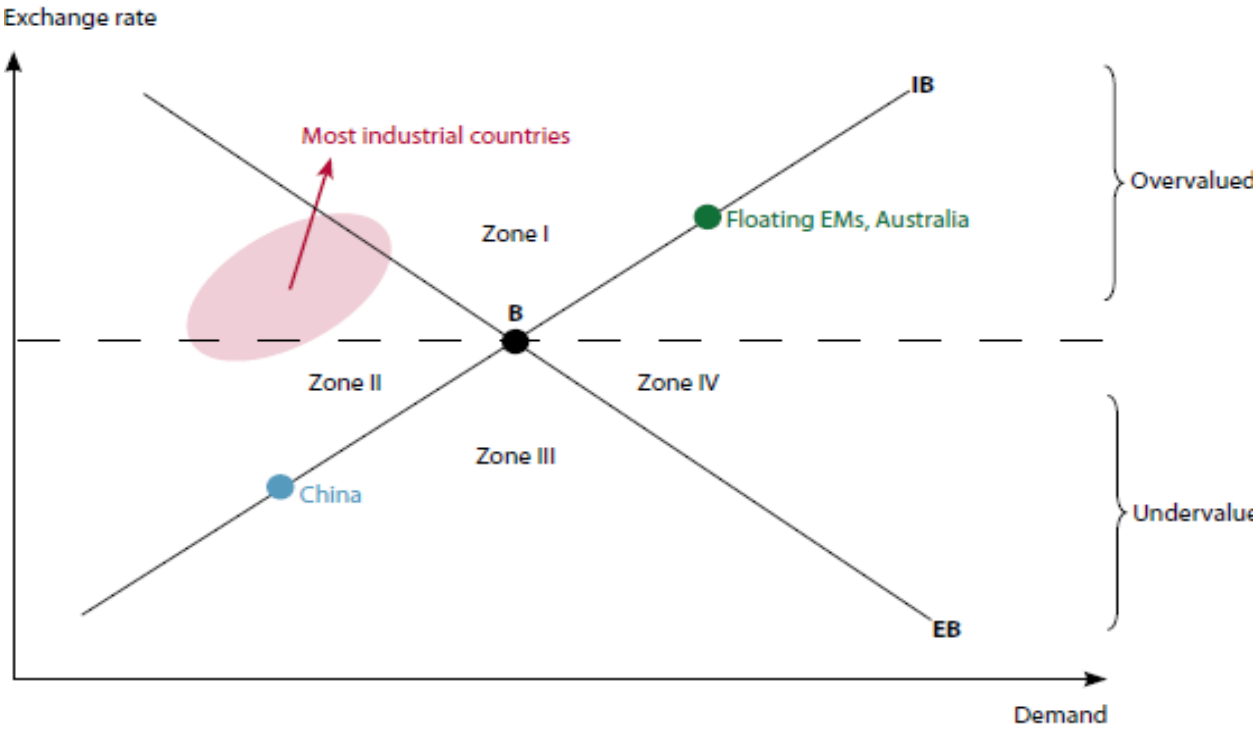
Table 1 **Country categorization by currency under- (over-) valuation in October 2010 and exchange rate intervention in recent months**

| | Undervalued | Approximate equilibrium | Overvalued |
|---|---|---|---|
| Intervened to prevent appreciation | China, Hong Kong,[1] Malaysia, Singapore, Switzerland, Taiwan | Argentina, Indonesia, Israel, Korea, Philippines | Brazil, India, Japan, South Africa, Thailand, Turkey |
| No apparent intervention | | Canada, Mexico, Sweden, United Kingdom, United States | Australia, Chile, Colombia, Czech Republic, euro area, Hungary, New Zealand, Poland |
| Intervened to prevent depreciation | ... | ... | ... |

1. Because Hong Kong's currency board pegs the exchange rate to the dollar, and because Hong Kong has been running large current account surpluses, the economy is automatically considered to be in the category of intervention to prevent appreciation.

Source: Cline and Williamson, Currency Wars?, Peterson International Economy , November 2010.

**Graph 13**: Internal External Balance, Demand and Exc. Rate




EM = emerging-market economies

*Source:* The analysis of Meade (1951) as portrayed in Swan (1960).

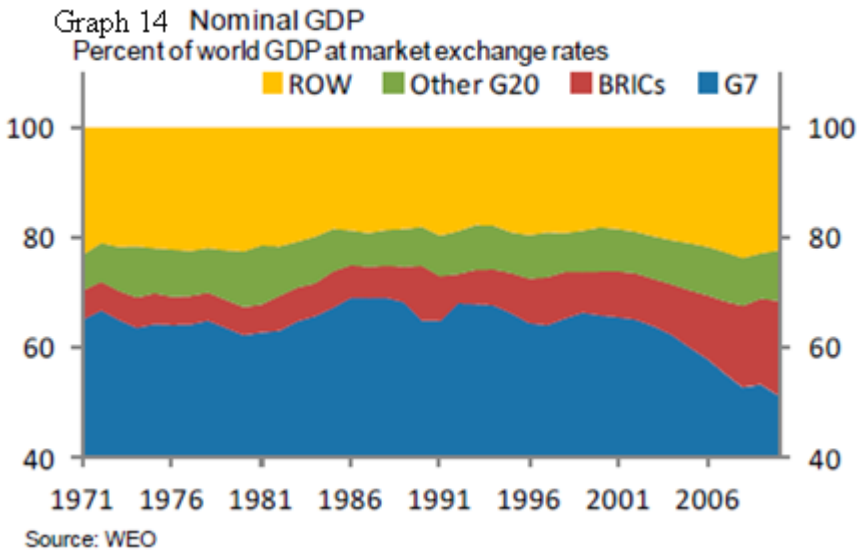
Source: Cline and Williamson, 2010.

According to Graph 13, countries with deeply appreciated currencies (such as Australia) need to implement demand constricting policies and measures to depreciate the local currency, in order to reach a trade deficit. On the other hand, countries such as China are required to expand the domestic demand, and encouraging the appreciation of the currency. In a nutshell, as Rogoff et. al. notes, capital controls introduced by countries is a matter of interest to economists, and in particular, to IMF (2011). On the other hand, the need of numerous developed countries

to stricter measures is obvious in Graph 13. The relationship between democracy and economy grow day by day. This will perhaps lead to an inevitable currency war through monetary policies, yet it may be possible to avert trade wars by succeeding in resolving the deadlock at Doha.

## Conclusion and Review

Equipped with an analysis on the past four decades of the global economy, one can tell looking in the last decade, that the earnings of developed countries can be seen moving to BRIC and other G20 countries in terms of exchange rates determined in the market (at a rate of 20% of the nominal GDP) (see graph 14). Did the activities of TNCs (transnational corporations) and the appreciation of local currencies have a part to play in this transformation? The answer to the shift in the nominal GDP lies probably in the deeply appreciated currencies (according to real exchange rate estimations based on unit labor costs and consumer price index) of emerging economies from Latin America to Far East, with the exception of China, Malaysia, Taiwan and Singapore. Although “currency wars” would be a natural outcome of this picture, it is still possible to avert a “trade war”.




Source: Mogdaham, IMF, 2011

Plans are being made to cut the budget deficit of the US in the coming period, to an amount of 4 trillion Dollars in 12 years. The plans emphasize tax hikes, especially with respect to high-income level taxpayers, and cuts in public expenditures (Martin, 2011). These plans, translated into a tight monetary policy, combined with the quantitative easing just witnessed, suggest that the capital originated from the US shall seek to settle down and stability in emerging economies. A return to high levels of FDI in terms of international investments is only natural for developing countries. However, for countries such as Turkey, where the current account deficit reaches to 7-8% of national income, Tobin tax should be discussed as an alternative. Indeed, Tobin

tax as currently implemented in Brazil is available as a monetary policy tool for all over the central banks in the world at low rates such as 0.25%.

"Extensive and fund-raising oriented practices such as *Tobin Tax* are avoided with a view to prevent frightening bankers and finance. In 1970s, the Post-Keynesian economist and Nobel laureate James Tobin of the Yale University of the US came up with a proposal based on the premise that each 1% of tax imposed by governments on foreign exchange transactions would lower the bank deposits in US Dollars and German Marks of the day at a rate of 8 points (Tobin J., 1978; 153-159). The fundamental motive of the proposal was to direct the monetary flows in foreign currencies moving around in an environment of floating exchange rates, to production. Although this proposal had resurfaced today, it has still yet to be completely debated among G20. It is evident that short-term money flows continue, as was the case prior to the recession. Since the proposal was debated and accepted in G-20, which took place on November, 2010 in Basel 3, the regulations shall not come into full effect

until 2019, which leaves a substantial ground for banks to utilize hot many. This may have dire implications in the medium term." (Şişman, 2011).

Such a case would also allow transnational corporations, which face the risk of increased unit labor costs due to deeply appreciated currencies of countries with current account deficits, to overcome this risk by spreading their capital investments in longer-term, avoiding increased costs of exports caused by increased costs of labor. The approximation of exchange rates to their real values, in other words the closing of the gap between the nominal rate and the real rate, would allow transnational corporations, which have invested in Turkey in the fields of automotive, aeronautics, and medical technologies (Charchedi, 2009, p. 175), to export to MENA region on terms that are more favorable. The reason lies in the essence of international competition being technological innovation. This is why technology is also the force, which helps lower unit labor costs, provided that technological progress is not accompanied by an increase in unemployment.

## Bibliography

**Arcand** Jean-Louis, **Berkes** Enrico **Panizza** Ugo "Too much finance?"
7 April 2011, VOX.EU

**Akyüz Yılmaz,** "The risk of high capital flow", China daily, 20-04.2011

**Bureau of Labor Statistics**, http://www.bls.gov/news.release/pdf/prod4.pdf, 25 April 2011

**Charchedi Guglielmo,** Frontiers of political economy, Verso, 1991.

**Charchedi Guglielmo**, Başka Bir Avrupa İçin, (Çev. Mustafa Topal), Yordam Kitap, İstanbul, 2009.

**Cline** William R. and **Williamson** John, "Currency Wars?", Peterson Institute for International Economics, Number PB 10-26, Policy Brief, November 2010.

**Dooley, Folkerts-Landau ve Garber**, An Essay on the Revived Bretton Woods, **NBER Working Paper** 9971, September, 2003.
http://www.nber.org/papers/w9971

**International Monetary Fund**, “World Economic and Financial
Surveys:World Economic Outlook; Crisis and Recovery”, April 2009.

**IMF,** World Economic Outlook, April 2011

**Martin** Patrick “As Obama reassures financial markets, public opposition growth”, wsws, 21 April 2011.

**Mishkin** , The Economics of Money, Banking and Financial Markets,
(Translated by: İ. Şıklar, A.Çakmak, S.Yavuz), Bilim Teknik Publications,
2007

**Mogdaham** Reza, “Strengthening the International Monetary System: Taking Stock and Looking Ahead”, **IMF**, 23March 2011.

**Mogdaham** Reza,” Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework”, **IMF**, 14 February 2011.

**OECD,** Factbook 2010, http://www.oecd-ilibrary.org/docserver/download/fulltext/3010061ec019.pdf?expires=1303732865&id=id&accname=freeContent&checksum=411C2E73C70B6708958A8A097DE5AA49
25 April 2011.

**Pilbeam Keith,** International Finance, The Macmillan Press, London, 1992.

**Rogoff K., Rainhart R., Magud N.,** Capital Controls meta analysis approach, VOX.EU, 24 March 2011.

**Şişman M.,** ”World Economy while Second Bretton Woods declines and Evaluation on Developing Countries”, Monetary and Financial Transformations in Central and Eastern Europe Conference and Les cahiers de recherche No:11, Leonardo Da Vinci University ESCE, 2008, Paris.
http://www.esce.fr/web_fr/colloque_programme.php
http://www.esce.fr/wp-content/uploads/2010/01/ESCE_CR_11.pdf

**Şişman M., “**On Crisis and 'Third Bretton Woods' Debate”, XXI Villa Mondragone International Economic Seminar on: "Global Crisis and Long Term Growth: A New Capitalism Ahead?” Tor Vergata Economic Foundation and CEIS - Centre for Economic and International Studies University of Rome "Tor Vergata" June 24, 2009, Roma.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1508036

**Şişman M.,”**'Globalization' or the Crisis of 'Misunderstanding': The Crisis is Global, but the Solution is also Global”, XXII Villa Mondragone International Economic Seminar on: "Recovery after the Crisis: Perspectives and Policies” Tor Vergata Economic Foundation and CEIS - Centre for Economic and International Studies University of Rome "Tor Vergata" June 22-23, 2010, Roma.

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1633860

**TCMB**.gov.tr

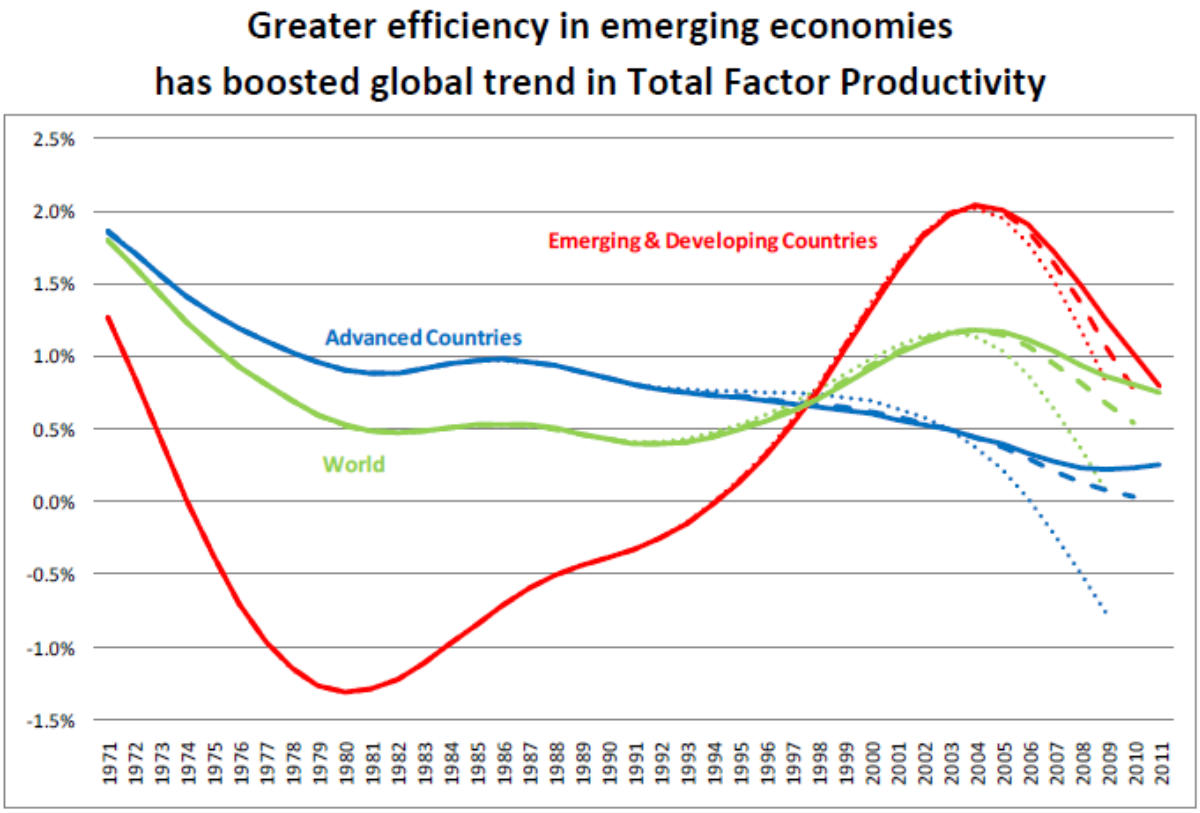
**Talley** Ian and **Cowley** Matthew “Brazil Finance Minister: opposed to constraints on capital controls”,The Wall Street Journal, 14 April, 2011

**Tobin James**, “A Proposal for Monetary Reform”, Eastern Economic Journal, Volume IV, No: 3-4, July/October 1978, Washington.

**UNCTAD**, Trade and Development Report 2010.

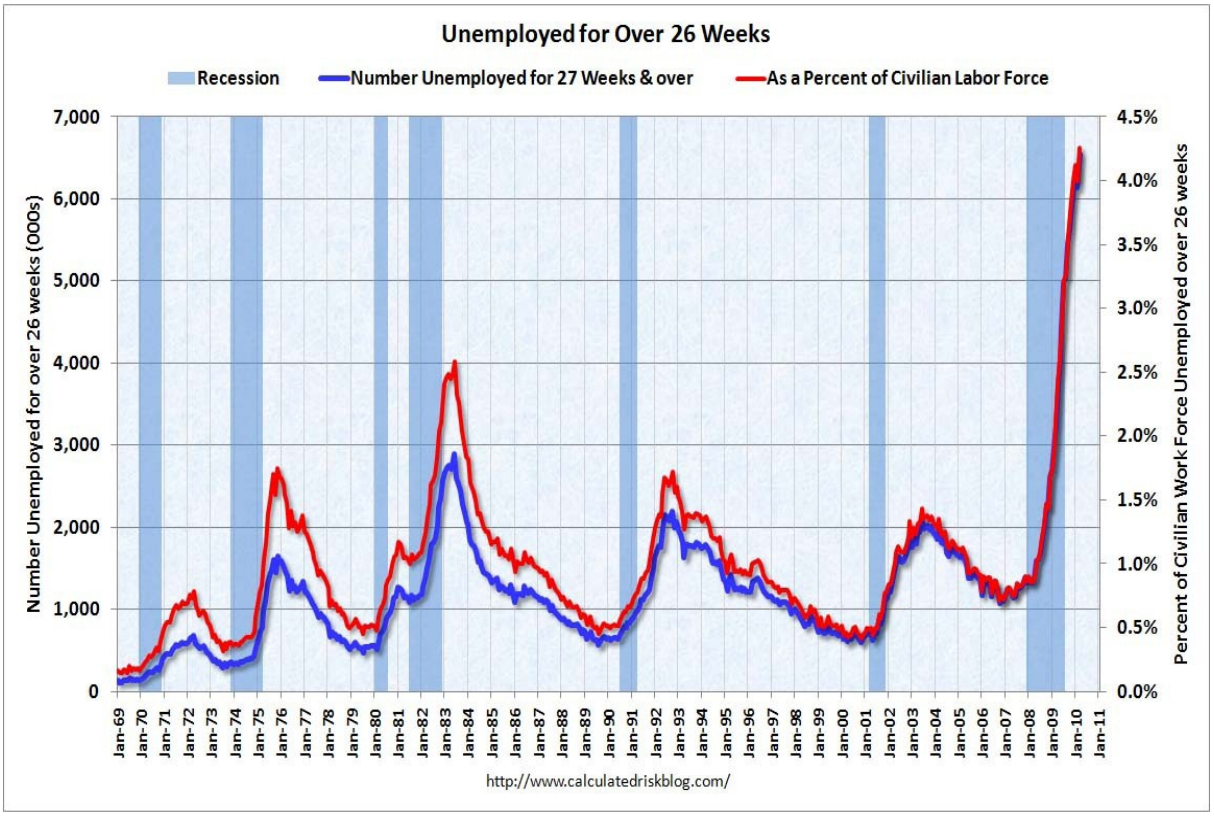
To Brazil ve China Reserve requirement rate
http://www.alsosprachanalyst.com/economy/peoples-bank-of-china-raised-reserve-requirement-ratio-to-stop-speculation-in-salt.html#ixzz1IAurdUnV

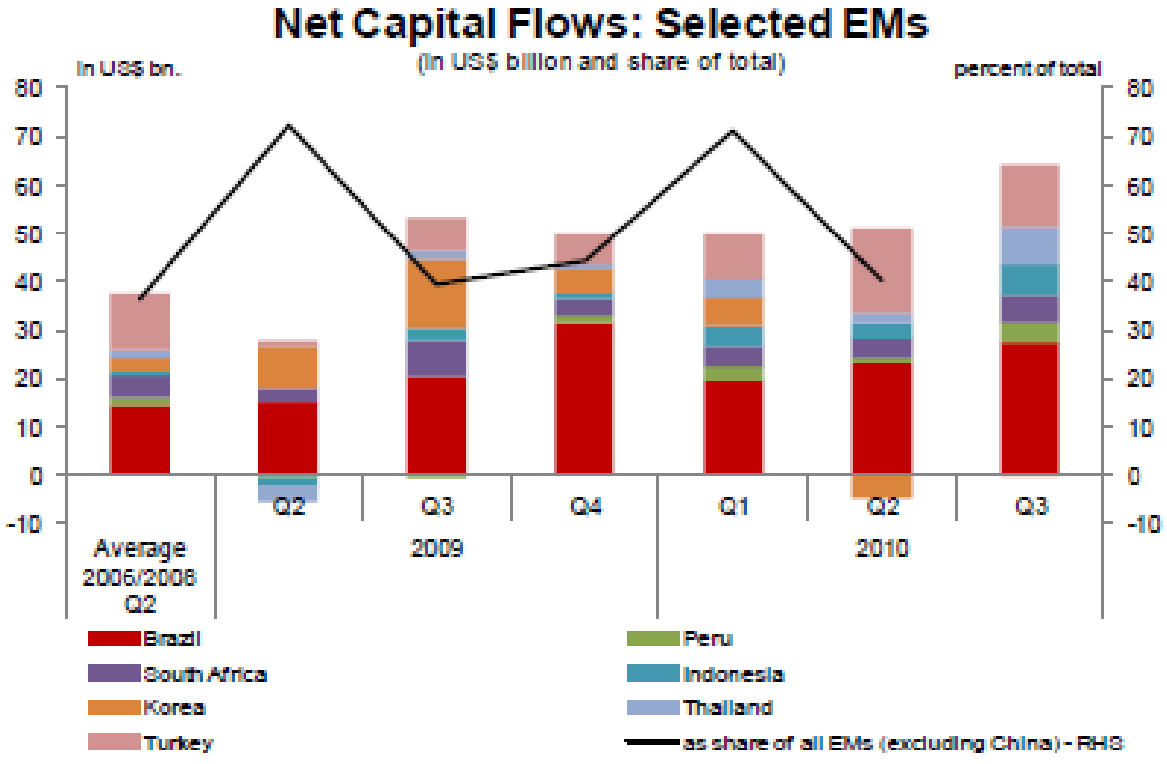
Additional graphs:




**Source: The Conference Board Total Economy Database, January 2011**

Note: The solid trend line is based on HP filters, including projections of productivity for 2010 and 2011. Dotted lines have 2009 as end-year and dashed lines have 2010 as end-year, but these two years are outliers as they were strongly impacted by the global crisis.

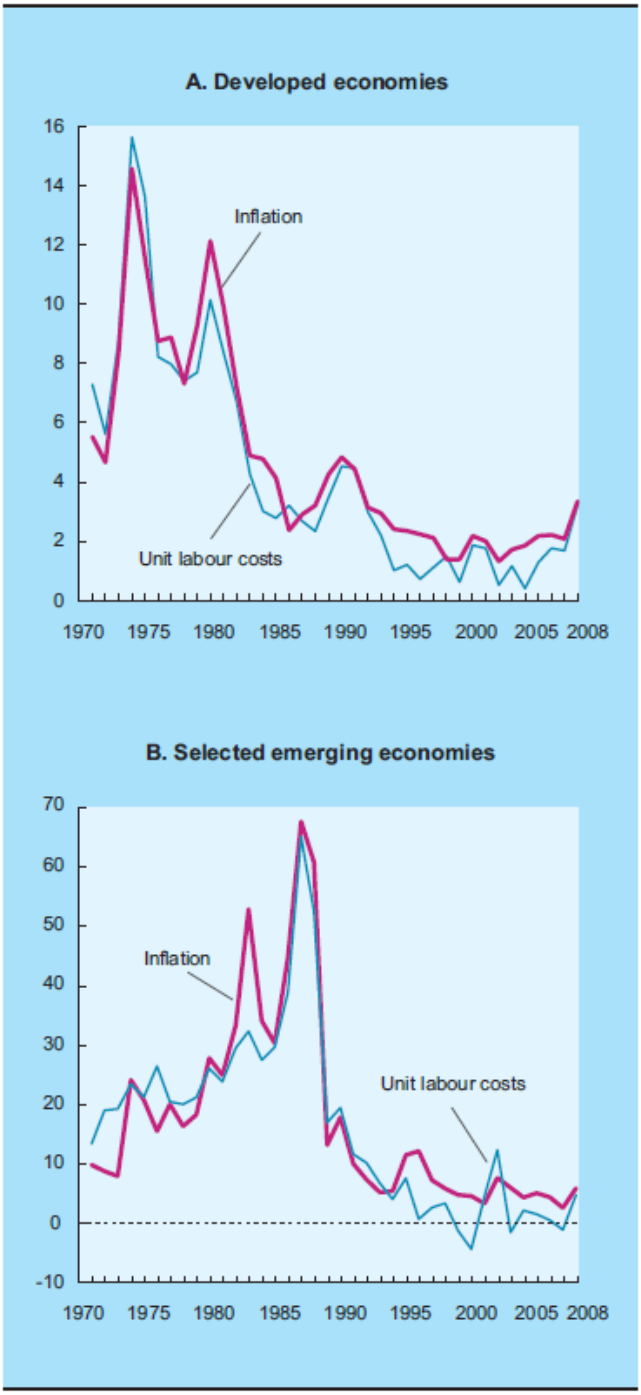



Source: IMF, IFS and staff calculations.
Note: No information available for all countries in 2010 Q3.

## ANNUAL GROWTH RATES OF UNIT LABOUR COSTS AND INFLATION RATES, 1970–2008

*(Per cent)*




*Source:* UNCTAD secretariat calculations, based on United States Bureau of Labor Statistics, *International Labor Comparisons* database; *OECD.Stat Extracts* database; IMF, *International Financial Statistics* database; OECD database; and ILO, *LABORSTAT* database.

*Note:* Selected emerging economies comprises Argentina (2000–2006), Brazil (1996–2006), Mexico (1975–2006), the Philippines (2001–2007), the Republic of Korea (1971–2008), Singapore (1991–2008) and Taiwan Province of China (1991–2007).