

Monetary-Policy : The Experience of U.S. as Compared to Other Western Countries

* S. Yadav

** Shaleen Nath Tripathi

Abstract

Economic-growth is contingent on a variety of factors, but the price-level and the level of unemployment are important because the Central-banks gauge these two variables to decide the course of monetary-policy which is responsible for credit-growth and trade-cycles. The relationship between economic-growth and unemployment is crucial because now, every economy tries to minimize unemployment or maximize employment in the process of economic-growth and development. Nonetheless, economists have now accepted prices as the major driving force of economic-growth. They have now acknowledged prices as a sign of economic-activity. In the present paper, we analyzed the effect of prices on the economic-growth and development of the U.S. economy. Almost all the prices in the economy move in the same direction at a time, except bond-prices, even the price of capital and price of labor. During booms, prices rise and in busts, they fall. Prices in the U.S. economy were high during up-cycle and crashed during recession, but interest rates were unexceptionally low, which pushed the economy in the "liquidity-trap," which is responsible for low spending and low economic-growth. It is suggested that the U.S. economy may go for an internal-devaluation, which means lower-prices and higher demand for both domestic and external economies to achieve full-employment.

Keywords : Price-level, deflation, inflation, unemployment, economic-growth, money-supply, internal-devaluation, interest rate, liquidity-trap, demand, supply, real wages, wage-rigidity, redenomination, exports

JEL Classification : E4, E5, E6

Paper Submission Date : April 26, 2016 ; **Paper sent back for Revision :** January 27, 2017 ; **Paper Acceptance Date :** April 6, 2017

The value of money may appreciate in the long-run because prices start falling as every economy falls in trade-cycles and deflation after a boom period and, as an example, we have Japan, the U.S., and many parts of Europe. An interesting observation of this paper is that with so much increase in the monetary-base, prices in the developed countries have shown a downward trend. They are trying to avoid deflation, but it is natural for prices to fall in the long-run because population growth-rates in these economies are contracting, and the supply-side is improving with more open economies. Too much inflation debases the currency, and people start carrying large volumes of currency notes, which is unnecessary. Therefore, countries apply currency re-denomination, which reduces the volume of notes in hand and makes the new currency re-denomination stronger. The new currency will be stronger. Higher re-denomination indicates loss in the value of money, but if value of everything grows as time passes and the investments we make also grow, then why the value of money decreases as time passes? The trend across the developed countries is that rate of growth of their population is slowing, which means less demand for their products, and they are now too much dependent on exports for growth. Therefore, we can say that as the time passes, supply will eventually outstrip demand, and prices start falling

* *Professor of Economics*, DDU Gorakhpur University, Gorakhpur - 273 009, Uttar Pradesh.

Email : snyadav559@gmail.com

** *Economic-Analyst*, Sant -Hussain Nagar, Gorakhpur - 273 001, Uttar Pradesh. Email : kshaaleen@gmail.com

because our rate of growth of population is falling; in one word, it is deflation. Therefore, the pattern we are observing is that prices fall as the economy grows and supply improves. However, prices cannot fall below the lowest denomination of any currency in the short-run, in the case of the U.S., it is below 1 cent. In this situation, if we want more demand and growth, we should stop fighting deflation and can choose to increase the real value of money, a rise in real wages, incomes and profits, by applying a lower re-denomination of the currency. But, in lower re-denomination, the old currency becomes stronger and the value of money increases. In economics, we say that prices might help to clear excess-supply. Inflation targeting in many parts of the world may be of less use because we should let the prices become market clearing. When we choose inflation targeting, we do not let prices go below the prices in the base year, which means we have set a limit for compression of prices, and if it goes below that, it is a deflation. However, deflation is a good-thing because it decreases the price-levels, which is good for domestic-demand and competitive devaluation.

What we try to achieve by depreciation? More demand, less prices relative to the money-supply, and more exports. We gamble on other people's income. What is a product's utility and how many people can afford it decides the demand-level, which means lower prices and high-utility will attract more buyers. However, we can earn long term profits in the short run if we reach a wider population by keeping prices low. In economics, it is called the scale-economies. When prices go down, it is a moment of relief, and we should welcome it by floating a lower re/denomination of the currency. The Central banks should commit that the value of money must be increasing and not decreasing. But actually, a dollar loses some of its value every year. We prefer inflation over deflation because it reduces the value of debt in terms of sacrifice made to repay a loan. Inflation makes the value of money to fall. This is a standard explanation for choosing inflation over deflation (Goodhart & Hofmann, 2004). However, income is mostly fixed in the short-run and if, under this condition, prices start falling within limits, it should be a gain because people consume more, save more, and repay their debt soon. It is totally meaningless to assume that the debt condition will deteriorate. Falling prices will release more money for debt-repayment. The banks might adjust the interest-rate as per the client's real sacrifice. In this condition, banks should try to neutralize the sacrifice and if in this situation, the interest-rate is near zero, debtors would be satisfied that they are paying zero-interest-rate. The study focuses on the time-period from 1970 to 2014 in the developed-countries.

The Problem

In the Harrod-Domar (1939) model of economic-growth, investors or producers track and compare actual-growth-rate and warranted-growth-rate to arrive at investment decisions (Sato, 1964). Actual growth is what the economy achieves, and warranted growth rate is the official data projection or forecast. In the model, the economy is on the knife-edge, which means that when the actual growth rate diverges from the warranted growth rate, the real effects of the disturbances are cumulative in nature (Hangemann, 2009; Scarfe, 1977; Solow, 1994). When the actual growth rate is less than the warranted growth rate, investors expect less aggregate-demand (A-D), and they invest less and every time they invest less, actual-growth rate falls and the economy falls in a downward spiral. On the other hand, if the actual growth rate exceeds the warranted growth rate, they expect more and more demand, and the economy booms. This trend is clearly observable. It is true that an economy takes several rounds of exuberance during booms and busts, and it takes few rounds before people realize that they were wrong. It happens every time. Every economy goes through credit-boom and trade-cycles (Kalecki, 1944).

The indicator (actual growth rate) which the investors accept as a signal of the aggregate demand has now become old and now the investors take prices as the right signal of aggregate-demand. If they expect higher prices, they supply more (the law of supply) (Green, Mas - Colell, & Whinston, 1995; Rittenberg & Tregarthen, 1996). Prices in the past period are the right signal of the aggregate- demand and supply is positively related to the prices, and high inflation means high demand. In our H-D model, which is considered to be a long run model, the

authors have totally ignored price changes and especially, the price of capital, interest rate, which is assumed constant. However, interest-rate changes, which are a great cursor for investment, especially real-interest rate (real interest rate equals nominal/money interest rate minus inflation), have been emphasized by Fisher in his Quantity-Theory-of-Money. If we try to see this model in the context of the U.S. economy, where the actual growth rate has been less than the warranted growth rate for the past 6-years, there had been a negative sentiment as far as the growth rate of the economy is concerned and the economy went through the down-cycle. People expected real interest rate to go down because the Fed indulged itself in inflation-targeting, which is expected to increase inflation and decrease in real-interest-rate. Low employment, low real wages and income, and demand accentuated the supply-shock that resulted in low-growth. So, if there was no shock, either supply or demand, investors had expected that the growth rate of U.S. economy would go up, they had invested more. The argument is that if inflation goes up, it reduces the value of money and, therefore, the value of debt goes down. The income distribution will move in favor of the debtor, but the Central bank's job is to keep the value of money stable so that it does not add to income inequality. However, the knife-edge problem remains unsolved due to fluctuation in the real-interest rate.

Most of the economies are always on the knife-edge. Over-supply is normal after booms. Economists are still without an exact demand-equation due to various imperfections, which might be solved to arrive at correct investment and supply-decisions.

Although America pursued an aggressive monetary policy in the past, but its purpose was not to create the Great-Recession. Actually, recessions and depressions are general features of a capitalist economy, and the U.S. is no exception. This is happening since the Great- Depression, and we can easily see the U.S. falling in recessions every 5-10 years since 1930s. We live in a diplomatic-world, and things are not as straight as they appear, and every country has the right to make choices that increase the well-being of its people, even if it is in the form of lower prices. Prices in the U.S. rise and fall due to changes in the monetary-policy; they are neither increasing continuously nor decreasing continuously. Price-stability has been the stated objective. The reasons may be political and diplomatic, but since the U.S. is a big importer too, its actions affect international prices (International Monetary Fund, 2006). America has never been an imperialist, but its policies throughout its history have been around scarce resources like oil. When recession broke, prices, especially oil-prices, fell down, and it helped all the oil importing countries because oil prices fell globally. The only thing that goes against America is the way loans were distributed. They were full of short-comings and were below the standard lending practices.

According to Krugman (1998), the U.S. economy is in the liquidity-trap when people accumulate reserves in expectation of lower prices ahead and are unable to arrive at the right conclusion because they always expect that prices will fall more. During recession, it is good from the point of view of growth to let the prices fall and help clear-market, and generate more demand as it helps increase real-wages and income (Bordo & Filardo, 2005). In this state of affairs, if interest-rate is at the minimum, as it is now, it will definitely help the economy to pick steam. Investors most often await low interest rates. Inventories are sold-off, and low interest-rate will help improve supply for future. Economy gains momentum. Once Bernake (2002) himself said, not long back, that, "little deflation is not bad." Pigou said lower prices will increase real-wages, which is what Janet Yellen (the Fed-chief) and other economists want. Higher real wages and income should definitely reduce voluntary-unemployment (Hough, 1955). The Pigou-Effect works in the liquidity-trap. It is more expansionary (McCullum, 1982). To reduce the unemployment-rate close to its natural-rate may be an objective of the policy-makers, but the U.S. economy is still stuck in the liquidity-trap. To overcome this problem, Keynesians recommend the use of fiscal-policy, but again, the public-debt of the country does not allow it to lose string (Barro, 1974). So, the economy has totally failed to cross the trap by not using any of the above tools. Therefore, the U.S. policy is neither Classical nor Keynesian. However, we cannot reject the thesis that politicians are not economists.

Naturally, there is a question regarding the right policy - internal-devaluation like Germany or external-

devaluation like the U.S. Germany may be supported because of the belief that the value of money should rise domestically and not only in terms of another currency. Prices may fall in the long-run because of improvement in the supply-side even when population and demand are going down. If the value of a currency rises domestically, it may generate demand and growth in the economy. Deflation may also be interpreted as a rational-expectation, because when prices are elevated after a period of increase, people expect it to come down during recession, as it is a gain in terms of real-wages. Economies like Japan, Europe, and the U.S. are trying to ward-off deflation; they are not fighting with falling wages. They are facing stagnant wages and incomes, more or less fixed. They are trying to push income and wages, which will infuse demand in the economy to consume the inventories. Sales are down, consumer-spending is low, employment has gone down, interest rates, the price of capital is almost zero but wages, the price of labor, has become stagnant. There has been an excess of supply of labor and capital in the U.S. economy, but demand is low due to high debt. To bring the economy out of this stagnant position, we need to increase wages and income, so that debt-repayment does not affect consumer-spending. There could be two possible paths of recovery as far as the growth rate of the economy is concerned; either we increase real wages and income or increase nominal income. Since the economy is going through an over-debt period, it is a major concern. We need to weigh down the trade-offs required for the above two paths. In general, prices cannot fall below the lowest denomination of a currency in the short-run and for further fall in prices, we will have to float a lower denomination of a currency, which will increase the space in which prices can fall. The evidences show rising money-supply in the global economy, but falling inflation and prices in many parts of the world in the long-run.

The Countries

(1) The USA : The U.S. is in the liquidity trap; people are sitting on a lot of cash. They have no incentive to save in banks, and probably, they are expecting prices to go down. Consumer spending, wages, and income are depressed too. To push them up, we need to infuse some purchasing power (Cassel, 1967) either by increasing nominal wages or by increasing real wages. The first one is under consideration, but the second one needs laxity on the part of the Central banks not to support prices and let them go down. People sitting on cash or with fixed wages and income will find the value of their hoards going up and that will boost consumer spending. During the recession, unemployment insurance/benefits restricted the demand from going down. The increase in liquidity in the U.S. adds to the stock of money people are sitting on, that is, the liquidity-trap and we need to break this trap; the economy must come out of the liquidity-trap. This can also be done by fiscal policy, but the government is overleveraged.

During deflation, if everybody has a job, we have to gain and not lose because real wealth in terms of its purchasing power increases if income is fixed. The economy will start living with low prices, but perhaps with greater purchasing power. In this scene, if wealth has not gone down, it has gone-up in real terms because prices have gone down. Deflation is not just sufficient to cut interest rates as lower prices, it helps clear market and generates demand. It is helpful if deflation is a problem with low level of employment. This will reduce the price-level; people will consume more and will save more. When they save, the supply of loanable funds will increase, which may lower interest rates; it means more expansion and economic-growth. Full-employment, however, remains a bigger concern. The Central banks almost automatically increase money-supply and reduce interest-rates after a fall in the the level of employment to restore full-employment (Domar, 1946). However, it would not happen if we have reached zero lower bound (ZLB) and are fighting deflation as happened in the U.S. during the Great-Recession. Why do we fight deflation? It is good for real wages and consumption and saving/investment (Patinkin, 1948), and could be the stabilizing factor because it would stoke demand by increasing real wages.

When demand goes down after a shock, prices come down, which increases real-wages that will push the aggregate demand and will help restore full-employment (Krugman, 2009). Interest rates in this scene go down

because people save more due to low prices. People save more, and the economy invests more. This is how the market works to restore full-employment, precisely called the Pigou-Effect (Takami, 2011). In this situation, when we try to increase the monetary base as it increases expected inflation, which in a liquidity trap situation is difficult to achieve, because people are hoarding cash and expecting that prices will come down once the Fed's policy to target inflation is over, it leads to the credibility problem. The Fed cannot commit easing for an unlimited period so that people do not expect lower-prices in the liquidity-trap.

In the U.S. policy, makers have had a choice between lower prices and high unemployment. In the past, before recession, inflation increased to 6%, with oil, and the policy-makers chose high unemployment in favor of lower prices and price-stability. High unemployment stroked income and demand negatively. It was the choice of the policy makers. They knew that the past monetary policy inflated the bubble. They said, "let the bubble burst, and they will clean up the mess later." Had the Central bank increased interest rates to deflate the bubble, there would not have been so severe demand slump coupled with liquidity-trap. Higher interest rate would have helped both. The Central bank failed to send the right-signals to the economy. Nevertheless, they succeeded in lowering prices.

But, then again, to fight deflation and break the liquidity-trap, the Fed adopted the task of inflating expectations and started its Quantitative-Easing (QE) programme. It wanted the public to believe that prices will rise and not fall since falling prices foster more falling prices expectation. They are trying to reinforce inflationary expectation so that people do not accumulate currency in the expectation of fall in the general price-level. The QE programme was mostly unsuccessful in inflating the economy. Demand is created when income rises. The Fed and the U.S. policy makers should try to affect the same (income) variable but more directly. Fiscal policy could be a direct option, a direct boost to employment, wages/income, and demand (Acocella, 2011). The government is debt constrained, but, again the ZLB or liquidity-trap is a good opportunity to borrow and spend because it does not crowd-out private investment. The policy makers should target wages and income since there has been a consistent real-wage-product gap since 1970s. Deflation could have also helped in increasing real-wages and demand through the Pigou-Effect, but by adopting inflation targeting, the Fed missed the train.

Generally, people talk about law of demand, and less generally about law of supply and law of prices. Full-employment is the major goal of policy, because sometimes, the Central-banks these days are ready to delay the goal of price-stability for full-employment. The policy makers in the U.S. should decide what they want to do, they want to restore full-employment, or they want to fight deflation because it will help in increasing demand, employment, and growth. The Fed is unnecessarily trying to push inflation, even when there is a downward pressure on prices, and that makes the job of pushing inflation higher more difficult. Nevertheless, deflation and liquidity-trap are the major logic behind pushing prices higher. Probably, the Fed has had the trap in mind. However, the trap can be avoided by following the Pigou-Effect. According to the effect, lower prices increase real-wages and income (Pigou, 1943). The Fed has pumped much liquidity in the system, and unemployment-rate is also near the target. This is the right time to let the prices fall, increase real wages/ income, and demand and achieve full-employment. Attractive wages will help people join the workforce (law of prices).

The real ailment of the U.S. economy is depressed demand. Someone has noticed or not, but the economy must have increased in terms of real wealth since the price level has almost touched the bottom, and deflation was a problem. This is equivalent of saying that the value of one-dollar has increased. The economy can take advantage of this scene, too, if it wants to reduce the effect of the erosion of the current wealth adjusted inflation of the current period, and it does not want to print money in higher denominations. However, printing money in lower denomination is helpful. When we move from cent to dollar, it is higher redenomination and when we move from dollar to cent, it is lower redenomination. For instance, if we mint coins of copper now, we can choose to mint coin of a lower value, or, 1 cent now equals 100 tenc (hypothetical) and let the economy deflate. As the economy will deflate, the value of 1 cent will increase, and will increase the real purchasing power of the masses, especially for those who have less wealth. This would create the demand the economy is looking for. According to economists like Mankiw of Harvard, the Pigou-effect or price-deflation is more expansionary.

(2) Japan : Many economists have argued that the 2008 crash in the U.S. has resemblance with the Japanese episode in the 1990s. However, the situations in the U.S. and Japan are quite different. In Japan, targeting inflation would not work because unemployment is moving in the NAIRU (non-accelerating inflation rate of unemployment) band of 4-5%. The range in which inflation becomes almost dead and does not respond to changes in unemployment rate, and the Japanese economy is not supply-constrained; it is a developed economy. The unemployment-rate cannot fall further. There is a limit. The economy has reached it. However, since poverty is still there at 16%, it needs to do better. In Japan, poverty is not due to unemployment, it is due to yen and its value. The hourly wages in Japan are near 750 yen, so if a worker works 8 hrs a day he gets 6000 yen a day and in the U.S., they get \$ 60 (approx.) a day. So, we can match the relative purchasing powers, and we find yen too cheap and the dollar strong. The wage a person earns in Japan is only for subsistence, and the wage in the U.S. is also sufficient only for subsistence. Both are subsistence wages neither more nor less; just sufficient for subsistence (Ricardo, 1817). Japan will need a much bigger stimulus to affect the threshold, but probably, prices will not rise. Japan has left too many inflation bases behind and opted for a very high base period, but it is very natural for prices to go down because the base periods we chose for the economy have been very high and prices will retreat to their original place when demand is going down. The best strategy would be to float a lower denomination of yen, and let the economy deflate, which would make the cash Japanese people sitting on to be more valuable in terms of purchasing power. Eventually, people will start feeling richer and some of the poverty will be washed away. It is a hope that poor people are also sitting on too much cash. Inflation targeting by monetary easing can further lengthen the recovery because people may expect that one day inflation targeting and prices will go down, and then they will resume spending. Prices cannot fall below the lowest denomination of currency in the short-run; in Japan, it may be 1 yen.

Prices fall, but they cannot be negative. If you buy something, you have to pay something, then what could be the lowest price? It must be the lowest denomination of a currency. Nevertheless, we can increase the purchasing power of money if we let the prices fall and float a lower denomination of yen, which will increase the room in which prices can fall. For example, in Japan, if a 50 ney (hypothetical, a lower denomination of yen) is floated, then the prices can fall from 1 yen to 50 ney ; hence, the value of 1 yen will go up. Nominal wages are very high in Japan, as high as 750 yen per hour, but we need to increase real wages to reduce income inequality, increase demand, and push growth. Without monetary easing, there has been a persistent pressure on prices to go down, which means we have an excess of supply over demand, and prices should continue to fall to clear the market, but the policy-makers want inflation. Japan has also chosen external devaluation over internal devaluation via monetary policy to give exports a push. Falling prices and wages too could make exports competitive. Japan is in the liquidity-trap as interest rates are flat zero (Krugman, 1998). Inflation is low because consumer-spending is low, there is less demand for products, but unemployment-rate is near the natural rate, wages are constant, people must be holding a lot of cash after so much of easing. People are definitely expecting deflation because they are probably doing it. We know that lower prices will help them save money for other heads. They know at some point of time the government will stop fighting deflation.

(3) Germany : During the past decade, Germany relied on low prices and wages. It chose internal devaluation to keep its exports competitive, which can be said to be a good policy in the international-trade. Both internal devaluation and depreciation affect prices to increase demand; but with a difference. The former directly lowers prices by a consistent monetary policy, while the latter decreases prices relative to income by depreciating home currency to increase demand for exports. However, the latter option was not available to the country, since it is a part of a currency union and shares its currency with many other countries. Apart from China, Germany is another country which has considerable surplus in international-trade (Kamin, Marazzi, & Schindler, 2004). Its foreign-trade policy can be said to be a success as far as its exports and surplus is concerned, but lowering prices and wages are constrained by lower nominal price and wage rigidity. The trend/pattern we have found is that there is

nominal downward wage rigidity, but prices show no such pattern. There has been a pressure on prices in almost all the developed countries to go down, which has reasons too. In advanced countries, population growth-rate is slowing down, and supply easily outstrips demand in case of deteriorating external environment inventories easily start piling-up and economic activity slows-down.

The question about the value of money in the German economy does not arise because it shares its currency with many other members of the Euro-zone. However, economists argue that if Germany has had its own currency, then its value must have been better than Euro vis-à-vis Dollar. Moreover, the euro is more successful in Germany than everywhere else in the Euro-area because of internal-devaluation and exports, and low-level of unemployment (Erber, 2003). Germany has managed to increase the value of money and demand over time by compressing prices internally (Issing, 2002). Definitely, in a deteriorating external environment, Germany will find it difficult to maintain its surplus. To be more successful in the international-trade-policy, a country also needs more income in other countries too because that will increase demand for exports.

Q-E and Deflation

Quantitative-Easing (QE) increases expected demand and inflation by improving money-supply, but inflation is not increasing, because of liquidity-trap (consumer-spending is low) and good supply conditions. QE will keep on improving supply due to cheap capital and capital intensive techniques in the face of high unemployment and less demand. It will worsen deflation, that is, downward bias in prices. Fiscal-policy will be more effective because it is more direct. Demand for labor and wages will increase for sure as it will not depend on the private sector. QE is making prices go down and with every QE people delay their purchases, they will think that prices will go down more. No doubt it can help reduce unemployment, but will not help with deflation. Japan is a good-example, because what happened there after so much of increase in money-supply is known to all (International Monetary Fund, 2003).

Most of the Western economies are on the knife-edge in terms of expectations as pointed-out by Harrod. Economies in general take several rounds of exuberance (wrong-decisions) only to know later that we were actually hitting the line when the train has passed. If we take Japan as an example, we see that prices are falling there. If we see from suppliers' perspective, we find out that they assume prices are a signal of the aggregate-demand and with every easing, suppliers expect demand and prices to go up. Consequently, they supply more and more every time. Japan is a developed-economy without supply-constraints. When there are already unsold inventories, more supply is likely to upset the growth conditions. Employment in Japan is not a problem; it is near the full-employment, so there is nothing to worry much. Real-Japanese economy is doing well. Real-interest rate there is near zero and supply-conditions are very good internally. Every time when the policy-makers commit high inflation, people supply more, which is responsible for deflation. Like some economists and politicians, people do not understand the problems of the liquidity-trap. Japan too should go for internal-devaluation like Germany. As a result, prices may come down, and real wages would be high. This is exactly what Pigou has told. There is too much money in circulation. To tighten the supply-conditions and generate inflation, Japan should increase interest-rates, reduce money-supply, and increase borrowing-cost. Total cost will go up, and inflation will go up.

An Analysis

The trend we observe is that through time, the price-level in the developed-world has gone down, despite so massive QE in the Western countries, which is against the classical quantity theory of money. In all the three countries, population growth-rate is going down; the economy is generating less demand, and prices are going down. Because of QE policy, the capacity to generate employment has increased, but inflation has not

materialized. We have observed that prices have a tendency to go down in the long-run which may increase real wages, demand, employment, and economic growth. This type of adjustment to generate demand is supported by the Pigou-effect and, it is the last among the most recent addition in the famous “stylized facts” by Samuelson.

In this section, we have tried to formulate a model to test the hypothesis that the level of prices plays a crucial role in economic-growth and development of the U.S. economy. Tobin (1975) also emphasized that demand is negatively correlated with prices. It means that low prices will generate more demand and vice-versa. Consequently, the employment and growth rate both may increase. The following linear-regression-equation has been formulated and estimated on the basis of U.S. data :

The estimated equation is :

$$\begin{aligned} G_t &= -1.529 + 1.542 P_t \\ \text{Sig.} &= (0.317) (0.043) \\ F &= 5.804 \quad R^2 = 0.420 \end{aligned} \tag{1}$$

where, G and P stand for the rate of economic-growth and price-level.

The other estimated equation is:

$$\begin{aligned} P_t &= -5.556 - 1.366 CAD_t + 0.322 HPI_t + 0.807 MS_t \\ \text{Sig.} &= (0.014) (0.002) (0.093) (0.018) \\ F &= 25.666 \quad R^2 = 0.928 \end{aligned} \tag{2}$$

where, P , CAD , HPI , and MS stand for price-level, current-account-deficit, house-price-index, and money-supply. All the three variables - CAD , HPI and MS - are significant.

But among the three variables, current-account-deficit (CAD) is the most significant variable followed by house-price-index (HPI) and money-supply (MS). We may thus conclude that these variables affect the price-level in the U.S. economy. Prices have shown a down-path in the long-run which has significantly affected export competitiveness and pushed growth. China is a good example of how exports can help achieve a higher growth-rate. Moreover, housing-prices in the U.S. economy, which are among the first signs of bubble, overheating, and recession later, had been a significant factor affecting the general-price-level. Housing is a labor intensive industry and creates a lot employment and demand. It also affects economic-growth of the U.S. economy. In the regression equation (1), the price-level significantly affects the economic-growth-rate.

In the long-run, the trend of prices in the American-economy has shown a downward movement. In a developed and open economy, supply is generally not a problem, and definitely it is not in the United States of America. The past 50-years period in the developed world shows that the monetary base has increased significantly, but prices have shown a downward trend in most of the developed –world, including America. Monetarism has largely failed. The chain of transmission of lower interest-rate to higher demand and prices does not happen. Probably we have gone the off-side at the zero-lower-bound in the U.S. economy. Increase in the monetary-base has not given the result expected by the policy-makers. The transmission process has broken down. Even with so much of the Q-E, prices are showing a downward bias. Recently, when the oil-prices fell around \$70, every major economist, including Paul Krugman, said that it will have somewhat an expansionary effect on demand because the crude-oil prices are lower by 40%. No economist supports deflation wholeheartedly; economists say little deflation is not bad. When interest-rates are rock-bottom, clients do not see any real sacrifice as if they are satisfied by paying 0% interest-rate on their loans. An economist is interested in real-interest rates. This is why Pigou-effect is more relevant in the case of the liquidity-trap than other effects. Lower inflation domestically too may increase export- competitiveness.

Research and Policy Implications

The present study is important in the sense that it opens a whole new area for research to further explore the long-run trajectory of the price-level as a consequence of expansion in the money-supply or the monetary-policy and its effect on the value of money, which might increase with time instead of inflation and lower value of money. This paper advocates that the value of money shall increase through time. So far, the research in the area of monetary-policy has been mostly narrow and focused on the single assumption that the price-level or inflation increases as a result of an increase in the money-supply, but researchers failed to include that more money-supply might also increase supply by lowering the borrowing-cost in the long-run, which has been the case observed in most of the developed-world in the last several decades. We also know that higher money-supply by the Central-bank reduces the interest-rate, however, the Quantity-Theory-Money says that more money-supply can increase inflation and, therefore, interest rate. Nonetheless, the price-level in the Western countries has gone down despite continuous increase in the money-base. An important implication of this study is that the price-level and expectations of changes in them may play important roles in the economic-growth and, therefore, in policy-making. By targeting prices, the Central-banks are trying to increase spending, but lower prices might help more to get the outcome the policy-makers desire for.

Conclusion

Among the economies considered for analysis, Germany is performing best of all with good employment-levels and trade-surplus in comparison to its peers. The U.S. economy may be directed to go for an internal-devaluation. It will lower the prices, and consequently, the demand may increase. The economy would be in a state of full-employment. We have evidence of downward nominal wage rigidity in the U.S. economy. If prices fall more than wages, there it implies a gain in terms of real-wages and demand. Lower prices also increase export-competitiveness. Both internal and external demand increase. We have evidence of persistent deflation in economies like Japan and Europe. The Fed too has said that deflation is expected, and it should be tackled. Commodity-price-rigidity is not supported by evidences. In case of the developed economies like Japan, Europe, and the U.S., we see that despite so massive increase in money-supply, prices are falling. Hence, we have increasing-returns from the money-supply due to falling prices. We hope that prices will fall as they progress and supply-side would improve. The value of money might increase in the long-run if prices fall. We may welcome falling prices by floating a lower denomination of the currency.

Limitations of the Study and Scope for Further Research

Every theory has limitations, similarly the current line of thought is observable only if certain requirements are satisfied, or the theory is only valid under certain conditions. Likewise, we can expect the general-price-level to fall only when the supply-side constraints are removed over time, and this case is applicable and observed in the developed-economies over decades where there is a right level of investment and more open economies, trade lowers prices as a result of competition, and higher money-supply and lower borrowing-cost have done their bit to increase investment and supply, and lower inflation. Lower interest rate in these economies have contributed positively to increase supply and lower inflation ; nonetheless, prices of scarce commodities like oil have been a major contributor to inflation or higher general price-level several times. The study has found that prices may fall as a result of expansion in money-supply when there are demand and incentives to increase investment and supply by lowering inflation and interest-rate. The credibility of different institutions is also a constriction on the outcome ; credibility has to be established, if there is a non-committant Central-bank, it would be difficult to lower prices or achieve price-stability.

Nonetheless, there is still scope to further investigate in depth the factors that have contributed to lower the price-level in the advanced-economies, especially with reference to the policies. The policies that have contributed positively to reduce price-pressures in the long-run are important to design the policy-framework for the emerging-economies.

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