The Impact of Crisis on the Export Oriented Manufacturing in the United States.

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Abstract

The study concentrates not only on the self-indulgence of the financial sector of the United States in conducting business, but what wrong it did to the export oriented manufacturing sector in the United States of America. The use of Constant Share Market analysis of change in United States exports proved to be fruitful. The results were astonishing, the change in exports due to commodity composition and market distribution was found to be negative, which means that the change was less than expected. One of the reasons for this has been attributed to the blind eye of Financial Institutions towards investment opportunities in the manufacturing sector, more precisely the small and medium size enterprises (SME) in the United States, who have a wide range of market access compared with the large enterprises. It is a tested fact that to expand a strong footing is a must, and a strong manufacturing sector gives much required robustness for the services to expand. Thus, rapt study of this sector for attracting investments by financial institutions coupled with more trade friendly policy implementation would bring the land of opportunities, the United States, economy back on track.

Keywords:

Constant Share Market analysis, Commodity Composition, Financial Institutions, Market Distribution, Recession, Small and Medium size Enterprises.

1. Introduction

The world today is trying to revive from the shock of recession struck in the year 2008. The root cause of which is mismanagement and misallocation of funds by financial institutions in the United States, creating a housing bubble, so enormous that, when it burst, it engulfed the whole World pulling the economies in the spiral of recession, except a few. The one's who escaped the adverse impact, India and China, were able to pull through due to the strong control by the country's central bank on the financial institutions, and the later had a very strong manufacturing sector. Thus, it is evident from the these economies, that to pull-out of recession and curb its adverse impact on the economy, the country should have a strong and sensible financial policy and a very strong manufacturing sector, to withstand the spiral effect created by financial crisis this time.

The study concentrates on the effects on the manufacturing sector in the United States due to the loose management of financial institutions. The hypothesis of the study is: if the financial institutions and government policies neglect the manufacturing, then the industry would result in a negative performance, even when the industry on its own tries to improvise.

2. Research Methodology:

The study uses Constant Market Share analysis, by Tyszynski [10]. The analysis is based on R. M. Stern, Foreign Trade and Economic Growth in Italy (New York: Frederick A. Praeger, 1967) [12]. The data require for the analysis is taken from OECD stats, for the United States. The calculations were conducted on manufacturing sector (defined as basic manufactures; machines, transport equipments and miscellaneous manufactured goods of harmonized system, two digit classification) [15]. It uses cross sectional method of calculation.

The reasoning on financial sector and manufacturing sector uses percentage and average methods of calculation on the absolute values from OECD.

3. A glimpse of Financial Sector in the United States:

The United States economy experienced a change in the new millennium. The land of opportunities seemed look more attractive for housing and real estate sector, as banks could enter 'risky business'. Their self-indulgence, eventually led to the destruction of the moral of the system- as banks are caretakers of public money, and it should be invested in right place, with utmost care. They are the backbone of a strong economy, as the backbone absorbs the external as well as internal shocks and stabilizes the body; a similar function is performed by the banking system for an economy. The reckless business pattern by banks and other financial institutions initially created a mirage and puffed up the economy by over concentrating on housing and suddenly a shock when the illusion cleared, the United States economy led the world into the spiral recession.

All this occurred due to multiple lending on the same asset and mirror assets, speculative ballooning of the prices of the same and when the bottleneck was about to spill over, an illusion of a strong asset balance was created to sell them off in other financial markets. And when the fizz of the bottle cleared, it was revealed that in the reality there were no real assets just the illusion, and the result of it was the crashing markets, one after the other. But all this could have been avoided, with a strong hold by the Central Bank (in this case- The Federal Reserve) of a country on the financial institutions and these should invest in a manufacturing sector, in turn, inducing will to enterprise, generating employment, rise in production, creating strong capital base by investing only when the project is truly viable. This would not result in high returns in short duration as in real estate business, in turn, it will need time to grow due to the high gestation period involved in the process of manufacturing- factory construction, equipment purchase and possession, raw material, appointment and availability of skilled labor, production, packaging, storage, attracting

appropriate markets, and finally sales, being some of the steps involved. Thus, requires a long procedure and time, but guaranteed results.

Now let us have a glance at what went wrong and how? Starting with- the investment share of the sectors with respect to the total economy of the United States. The dilemma could be felt, which, one has to gulp with a pinch of salt. The total investment share of the economy, shows that the Financial, Insurance, Real Estate and Business Services got about 43.97 percentage at an average from the year 1999 to 2007, out of which, a major portion went to the Real estate related business, at an average of 38.29 percentage. The predicament of the whole story lies in the fact that manufacturing gets a meager 8.77 percentage of the total investment share of the economy, where for the same period the labor productivity index went up from 100 percent in the year 2000 to 141.13 percentage in the year 2007. The crux of the problem, which aggravated the shock was allotment of an average of 80 percentage of total investment share relative to the service sector of total economy for the same period (calculated from, OECD statistics data for the United States)[15].

The figures could have been different, with a slight thoughtful action by the controllers of the financial system. A similar comment came from some of the stalwart economists- Nobel laureates, Paul Krugman and **Joseph** E. **Stiglitz**. In some of their interviews, they did point out the bad banking practices and also predicted the crisis with suggestions of implementing strong and timely control by the Federal Reserve, on which, the Fed, started working after the crisis[1] [2][14][16]. In their interviews, both have appreciated, Dr. Dr. Y Venugopal Reddy, the then **Governor, Reserve Bank of India, for his tactful and sensible handling of the monetary policy with extreme sensitivity, without forgetting the basics of BANKING. So, now every financial institution is now re-learning in basics, as the** Federal Reserve is reforming Financial Regulatory system [1]. Let us try and understand as to how this affected the manufacturing sector.

4. Manufacturing sector in the United States

While most of the sectors faced the effect of recession lately, in the year 2008, the manufacturing sector started to experience it quite early, to be precise, starting from the period 2000. A concise account of which is explained further on- is the testimony to the above statement. The United States economy saw a plunge from 15.72 percentage in the 2000 to 12.71 percentage in value addition at current prices by manufacturing industry for year 2007, which is around 80 .5 percentage point fall. A fraction could be credited to the dive of 73.44 percentage points in gross fixed capital formation. This slump is observed in all categories of manufacturing except for chemical and chemical products.

The gross output production at current prices also witnessed a dip. It was around 20 percent in the year 2007 which was 24 percent in the year 2000. The investment intensity based on value addition experienced cut down from 67.8 percent to 61.5 percent for the same period. While self employment rate for manufacturing hovered around 3.62 percent, total services had an astonishing 69.5 percentage at an average. The industry performance regarding employment for the duration 2000-2007, calculated from, OECD statistics data for the United States [15] was as follows:

- Employment share in the total economy fell from 12.66 percent to 9.85 percent, with an average employment share of about 10.94 percent.
- A decent labor productivity index of 119.75 percent at an average, higher than compared to 106.67 percent of the total economy.
- Value addition by labor for the entire economy floated at 57.55 percent, with manufacturing toping with a 67.78 percent.
- The unit labor cost index was the lowest, compared to other industries.
- The rate of High-growth enterprises attributed to employment was 5.5 percent for the year 2007.

To conclude with, the above mentioned details make it clear that, labor in manufacturing industry has put up 'just' performance compared to the rest of the sectors.

The United States economy had about 13.55 percent of Worlds export market share in the year 2000 which fell to 9.67 percent in 2008, out of which manufacturing accounted for 13.69 percentage to 9.7 percentage for the same period. Of which, the maximum contribution to the exports was attributed to the electricity, gas and water supply and agriculture and allied sectors. The export specialization relative to manufacturing at an average 93.55 for the duration 2000 to 2008 was a decent value compared to others. Consequence of this was a rising trend in export share of production averaging to a 16.62 percentage, with 19.28 percent in the year 2007, when compared with the total share of exports combining all sectors, amounting to a meager 4.01 percentage, is quite a substantial value. This to some extent resulted in reduction in the high negative impact on the country's trade balance. The negative tare balance has risen by 55.23 percent for the period 2000-2008. The reason to rejoice is the fact, that, the contribution of manufacturing towards the negative trade balance has descended from 74.56 percent to 58.83 percent for the same period, Calculated from, OECD statistics data for the United States [11].

A miniature description of the SMEs is a must as they are the ones who face the shock first, as they are on the lowest, on the rack. Their number is more than 90 percent of total exporters, (2002). Though large firms account for majority of exports, SMEs contribute to more than one-fourth of the total exports; to this manufacturers contribute around 33 percent [6]. The best part of their performance is that: though more than half of their total exports go to major markets, they have spread their business all over the world, including the fast developing countries [6], which reveals healthy trading. But the percentage of sales requires to grow, further so that, these firms become strong to absorb shocks.

In a study of the new policy of investments by Heintz, Pollin and Garrett-Peltier on investments in infrastructural development, by the United States government, it is observed that: "The manufacturing sector will account for about 10 percent of the total spending resulting from infrastructure investments, corresponding to the 10 percent share of employment increases...manufacturing jobs, by themselves, would account for 69,000 of the total 77,000 increase in jobs.

The increase in domestic job creation within the manufacturing sector resulting from raising domestic supply purchases to 100 percent of total purchases would represent a 33 percent increase in manufacturing job creation"[3]. This would be the result of direct, indirect, and induced effects of government payments made under the baseline and high-end investment program, for the purchases made for the rebuilding of the infrastructure in- transportation systems, public school buildings, water management, and energy transmission. With this, if the financial institutions start investing in manufacturing, the export sector which would benefit indirectly (domestic economy) and in induced (foreign economy) manner, shall also enjoy the direct benefits, which would have a huge positive impact on not only the United States economy but the entire World as a whole.

5. The Constant-Market-Share Analysis of Change in United States exports

The theory of price elasticity is used as the basis of the model. This was made popular by Tyszynski [10] in foreign trade analysis. According to this model, a country's exports fail mainly due to three reasons:

- Export concentration in commodities with slow relative growth in demand;
- Exports to relatively stagnant regions, (Regions, countries and markets are used inter-changeably) [10].
- Country may be unwilling or unable to compete effectively with other supply sources.

It is clear from the previous discussions that: in case of Unites States, all the above mentioned reasons seems to be true.

The core assumption of this model is- a country's share in world market should remain unchanged over time. It is the difference between the export growth implied by the constant-share norm and actual growth in export preference is attributed to the effect of competitiveness and actual growth in exports, which is divided into commodity-composition, market distribution and competitiveness effects [10].

The basis of the model is formulated on: demand for the exports in a given market from two competing sources of supply may be described by the following relationship:

$$\frac{q^1}{q^2} = f\left(\frac{p^1}{p^2}\right) \qquad (1)$$

Where, q*i* and p*i* are quantity and price of the commodity from i^{th} source of supply, is the basic form of elasticity of substitution. When both sides of the above equation are multiplied by (p1/p2) we get:

$$\frac{p^1q^1}{p^2q^2} = \left(\frac{p^1}{p^2}\right) * f\left(\frac{p^1}{p^2}\right) \qquad (2)$$

$$p^1q^1/\ (p^1q^1 + p^2q^2) = [1 + \left\{ p^1 * \frac{f\left(\frac{p^1}{p^2}\right)}{p^2} \right\}^{-1}\ ]^{-1} \qquad (3)$$

$$p^1q^1/\ (p^1q^1 + p^2q^2) = g\ (p^1/p^2) \qquad (4)$$

Equation 4 indicates that country *I*'s market share will remain constant except as (p1/p2) varies. This establishes the validity of constant market share norm and suggests that: the difference between export growth implied by the constant-share norm and actual export growth may be credited to price changes. When equation (1) is expanded, in relevance with the above discussion, we get:

$$V'_{ij} - V_{ij} = r_{ij}V_{ij} + (V'_{ij} - V_{ij} - r_{ij}V_{ij}) \qquad (5)$$

When this equation is aggregated, we get:

$$V'_* - V_* = \sum_{i=0}^{n} \sum_{j=0}^{n} r_{ij} + \sum_{i=0}^{n} \sum_{j=0}^{n} (V'_{ij} - V_{ij} - r_{ij}V_{ij}) \qquad (6)$$

$$V'_* - V_* = rV_* + \sum_{i=0}^{n} (r_i - r)V_i + \sum_{i=0}^{n} \sum_{j=0}^{n} (r_{ij} - r_i)V_{ij} + \sum_{i=0}^{n} \sum_{j=0}^{n} (V'_{ij} - V_{ij} - r_{ij}V_{ij}) \qquad (7)$$

(a) (b) (c) (d)

Equation (7) [10] is a "three-level" analysis where the exports of the country, is divided into: (a) the general rise in world exports; (b) the commodity composition of the country's exports; (c) the market distribution of the country's exports; and a residual reflecting the difference between the actual exports and the growth that would have occurred if the country had maintained its share of exports of each commodity to each country. If (b) is positive, when the county is producing and exporting commodities whose markets are growing relatively fast, otherwise negative. If (c) is positive, when a country exports are directed to relatively rapidly growing markets and is negative when directed towards stagnant regions.

This model was tested on United States. The export data for the Harmonized System for the 49 categories of manufactured goods for the following markets were collected from OECD data: APC; ASEAN (Association of Southeast Asian Nations); Baltic States; EU15 (European Union of 15 member states); Gulf Arabian countries; NAFTA (North American Free Trade Agreement); and SAARC (South Asian Association for Regional Cooperation); South America [15]. The 49 categories of Harmonized System were then aggregated into three broad categories of basic manufactures; machines, transport equipments and miscellaneous manufactured goods. The results of which are expressed in the table given below.

The analysis in table 1, reveals that the change in exports from the year 2003-2008 was US$ **241156684087.54 million. The change is expressed in** "three-level" analysis using Equation (7) [10]. The calculation shows a **51.28** percentage of change in exports was due to increase in World trade.

Table1. The Constant-Market-Share Analysis of Change in United States exports 2003-2008:*

	US exports in 2008		615915078056.54	
	US exports in 2003		374758393969.00	
	Change in Exports		241156684087.54	100%
1	Due to increase in World trade:	$\sum_{i=1}^{10} rV_i$	123670270009.77	51.28
2	Due to Commodity com position	$\sum_{i=1}^{10} r_i V_i - \sum_{i=1}^{10} rV_i$	-24011824776.57	-9.96

3	Due to Market distribution:	$\sum_{i=1}^{10}\sum_{j=1}^{13} r_{ij} V_{ij} - \sum_{i=1}^{10} rV_i$	-53670512766.41	-22.26
4	Due to increased competiti--veness:	$\sum_{i=1}^{10}\sum_{j=1}^{13} r'_{ij} - \sum_{i=1}^{10}\sum_{j=1}^{13} V_{ij} - \sum_{i=1}^{10}\sum_{j=1}^{13} r_{ij} V_{ij}$	171156926844.18	70.97

Source: Calculated by the author using the OECD data.

** Based on R. M. Stern, Foreign Trade and Economic Growth in Italy (New York: Frederick A. Praeger, 1967), pp.33-44 and 161-63.*

The change in exports due to commodity composition is a negative value, and amounts to **-9.96** percentage. The results support the hypothesis: that if the financial institutions and government policies neglect the manufacturing, then the industry would result in a negative performance, even when the industry on its own tries to improvise. Thus, concentrating less on manufacturing sector by financial institutions costs the economy heavy. This sector is responsible for generating more than 10% of employment in total economy. Thus, increasing investments in this sector, would not only generate employment, but would accelerate the growth of the economy by increasing the moral to enterprise, thus creating more jobs, resulting in creation of strong capital and augmenting production.

This increased production can be channelized to fast growing markets, in this type of expansion SMEs have shown keen interest, thus increasing market penetration of products manufactured in United States into World markets. Deliberate attempts should be on increasing market penetration to a wide range of areas, which should be done evenly. Doing so, the negative results of change due to market distribution, **-22.26** percentage could be solved. The model states that the result for change due to Market Distribution is negative if, the exports are concentrated on stagnant markets. This is true in case of United States, its exports concentrated in countries like: Canada(20 percentage of total exports and 30 percentage of top 15 trading partners); Japan(7.5 percentage and 5.1 percentage); Federal Republic of Germany(6.1 percentage and 4.2 percentage(2008)); United Kingdom(4.1 percentage and 6 percentage); South Korea(2.6 percentage and 3.9 percentage); France(3.2 percentage and 3.2 percentage), with most having growth rates below 3 percentage (most got affected harshly because of the ongoing recession and are struggling to recover) only exception being China, the fastest growing country, with a export share of 5.5 percentage of total exports and 8 percentage of top 15 trading partners[4]. The figures point towards a major redistribution and methods to be planed to attract more market share in countries like China, India, and Malaysia etc. **Thus the result- a negative** commodity composition and the market distribution **confirms that the United states has concentrated less on providing better performance platform for the manufacturers and the exports were concentrating in more stagnant markets.**

6. Conclusion:

The United States economy has suffered greatly due to the mismanagement of funds by the Financial Institutions. The remedy to the current situation is by following the basics of finance and making the manufacturing sector stronger by creating a transparent and healthy investment base for manufacturing sector with special focus on SMEs, coupled with more market penetrating trade policies by the government of the United States, the slump in the manufacturing sector, the foothold base of any economy, could be brought to a smooth growth path. The truth - most of the economic indicators are heavily influenced by the manufacturing sector, thus making it strong strengthen the economy as a whole.

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