Land market responses to economic recession in Kerala

Kurup, Hari K K and Sumayya, B K

Centre for Development Studies, Trivandrum, Kerala India

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Introduction

Conventionally, economic theory considered land as a factor of production. Economic theorizations were, thus based essentially on this basic premise. However, recent developments in the land market suggest that it is increasingly becoming a speculative asset. The current phase of economic recession has its roots in the sub-prime crisis which in turn is closely linked to the land market. When a boom is underway, the anticipated increase in rent induces speculators to buy land for price appreciation rather than for present use, which causes the current site value to rise above that warranted by present use. Once widespread speculation sets in, land values are carried beyond the point at which enterprises can make a profit after paying for rent or mortgages. The rate of increase of investment slows down, eventually reducing aggregate demand as the slowdown ripples through the economy, increasing unemployment and bringing forth a depression. Speculative demand can drive the price higher than that set by the users all the way up to the peak, increasing the peak price substantially. This is even more so in the case of assets such as land whose quantity cannot be expanded. After a peak, when the price falls, speculative sellers can drive the price to a trough below that which would have taken place in the absence of speculation. Economic recession is thus felt earlier in the land market compared to any other domestic sectors (Foldvary 1997)[1].

Land is a key factor for any economic activity. It is a finite resource. The market for land is different from a commodity market. Land prices cannot be expected to be uniform per

[1] Foldvary has presented his theory of the business cycle at several economic conferences, and published it in the October 1997 issue of the *American Journal of Economics and Sociology*. In that article, Foldvary predicted that the next depression would take place in 2008. He repeated that prediction in several later articles and lectures. During the past ten years, Foldvary has not changed the predicted year of 2008; indeed he finds that the economy has followed the same pattern as in previous cycles and is right on track to fall into recession and depression in 2008.

unit. The variations in unit price of land happen due to location specific factors. Land is not homogeneous everywhere. A plot of land in an urban setting with relatively high infrastructure would fetch a high price. On the contrary a plot of land in a rural segment would fetch very low price. Proximity to hospitals, schools, playgrounds, parks, railway station and such amenities would enhance the price of land. A market for land exists when and where it is possible to exchange land rights (Dale, et al 2002). Land market has a link with many other sectors of an economy. A study of the nature and character of land market will help to understand the working of land market. Land values and the land market situation will be of considerable interest not to the peasantry alone but to many others who are directly and indirectly connected with land and its problem. Obviously it will be useful to those who wish to buy or sell land and to lending agencies of all types. Basic information on land and its productivities is required for those who deal with farm management, agricultural planning or the pattern of resource allocation and adjustment.

Land relations are at the root of most economic and social unrest in Kerala. The real tillers of the soil are being alienated from the land. The use of land as a productive asset is being limited by the supply scarcity and rising price of land. This has affected agriculture and allied activities and the industrial sector (Harilal KN, 2008). The pressure on land is greater in Kerala compared to the national average. Kerala is one among the most densely populated states in India. As per the 2001 census the density of population of the country was 324, whereas in Kerala it was 819. The per-capita availability of land presently is about 0.12 hectares.

In this context a study of land and its market have much relevance. The study attempts to examine the dynamics of a rural land market of Kerala. Land markets are very much dictated by the location; size; condition; type of tenure; the permitted land use and the general state of the local and national economic conditions. However, understanding the genesis of any land market, whether it is developed or not, will help in generating insights into both theoretical and empirical dimensions. An understanding of the land market, its development and its functioning, would help one to closely follow the development trajectory of an economy.

Data and Methodology

We examine the interface between speculative behaviour and the economic slowdown in relation to land market. The speculative dimensions and the price movements associated with land market transactions are of a macro nature. Other than the NSSO surveys, data on land relating to average price, number of sales and, volume of sales are not available at the macro level. Hence one has to generate micro level data for arriving at macro level inferences. This would also help capture the micro dynamisms of the land market characteristics. Land transactions in the villages falling under the jurisdiction of Badiadka Sub Registrar office of Kasaragod district are examined to understand the dynamism of land market. The study focuses on certain key indicators of land market transactions such as area of land transacted, land sales and price of land for an analysis of the trends in land market. The study also attempts to examine the timing of economic slowdown in relation to land market. This is essentially to verify the argument by Foldvary (1997) that land market is the first to respond to economic recession. The necessary data are collected from the records of Badiadka sub-registrar office. Nine panchayaths comprising of 26 villages fall under the jurisdiction of Badiadka sub- registrar office. From each panchayath, a village is randomly selected. Data collected include type of transactions, area of transaction, and type of land and value of land. From each village, information on one sample transaction per month is randomly obtained for nine years i.e. from 2000 to 2008. We have lesser number of observations for some months as no transaction took place in that particular month for some villages. In total, data on 967 transactions was collected. Also the year wise and month wise details of total number of transactions were collected.

Table 1 Details of Sample Collection

Number of villages selected	9
Number of cases collected from each village	108
Number of cases expected to collect	972
Number of cases actually collected	967

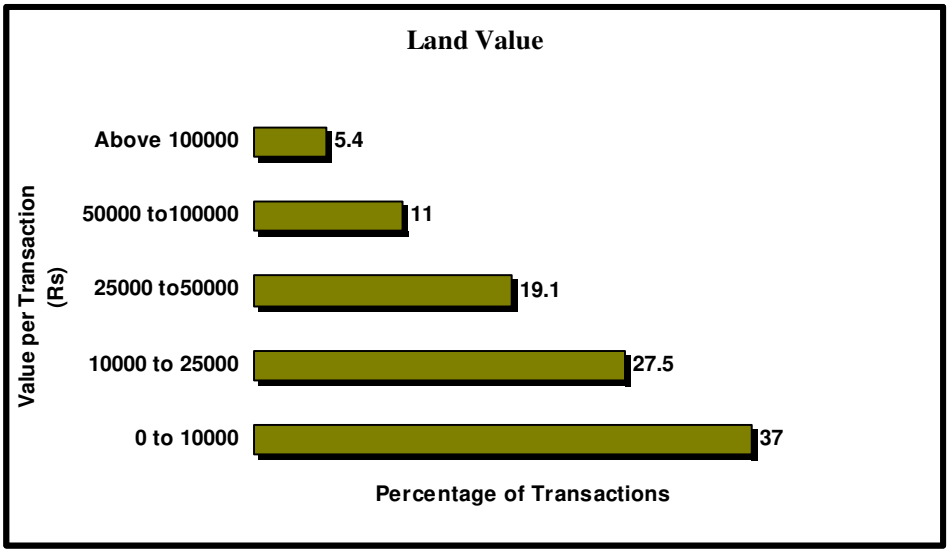
We proceed with a discussion of the trends in the land market of Badiadka (Section I) and use this micro level information to address the timing of economic recession at a macro level (Section II).

Section I: Trends in Land Market

Land Value

Land values reported in the documents are highly under estimated. These underestimated values will not give a reflection to the actual market price. But still the values collected from the government records are reported as baseline information. In figure.1 the range of values and percentage of transactions are plotted. In the sample, 37 percent of transactions got registered below Rs. 10000. Between Rs. 10000 to Rs 25000, 27.5 percent documents got registered. More than 50 percentage of transactions got registered below Rs 25000. Transactions above Rs 100000 are relatively lower i.e. 5.4 percent.

Figure.1 Land Value Reported in Documents



Source: Sub-registrar office

Land Revenue

Land revenue is one of the major sources of government revenue. Each type of transaction incurs a specific amount of transaction cost depending on its value. More than 75 per cent of the transactions are sales transactions. For a sale deed the buyer has to pay 10 percent of the value as stamp duty and 2 percent as registration fees. Table 2 shows that Government revenue from land transactions is increasing over the years. During 2007-08, land revenue recorded a higher growth rate. This may be because of the government intervention in land market. Government introduced new policy measures by fixing the fair value and a guide line value for land. But the increase in the revenue does not mean that land market was active through out the year. From the analysis of monthly data on sales it is found that land sales show a declining trend from September 2008 onwards. So the higher growth in land revenue may be because of the transactions prior to September. Till September land market was in a boom. After that one can visualize the setting in of a recession.

Table 2: Revenue from land sales

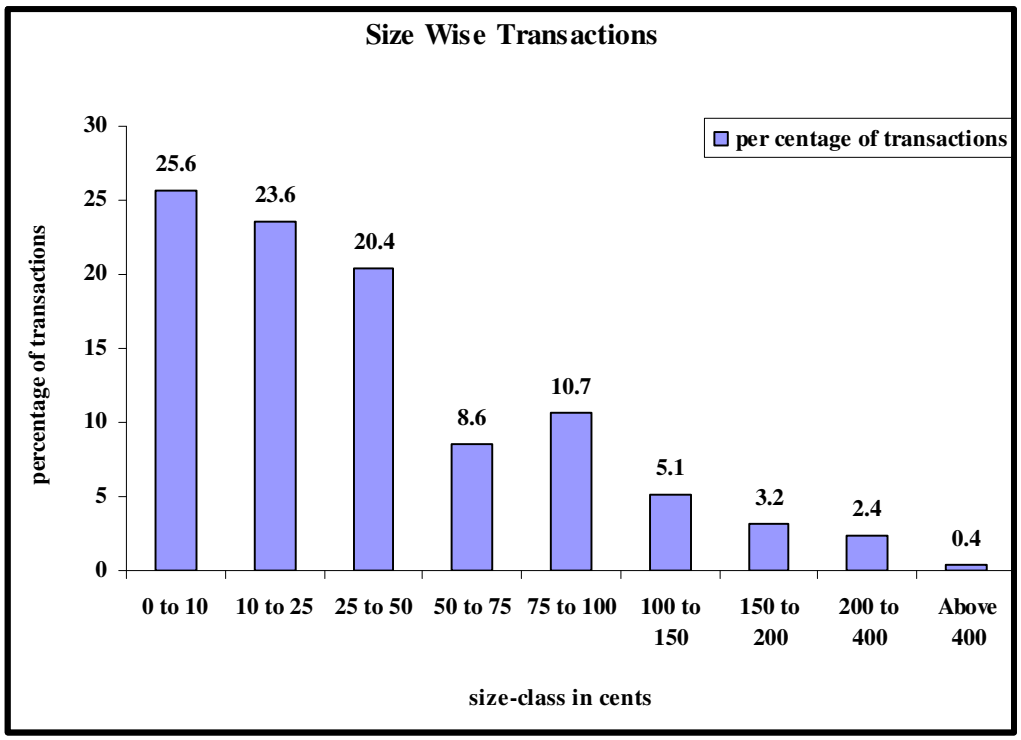
Year	Revenue (Rs)	Growth Rate
2000	1,31,128	-
2001	1,33,824	2.05
2002	1,73,929	29.96
2003	2,60,760	49.92
2004	2,96,058	13.53
2005	3,06,480	3.52
2006	3,46,992	13.2
2007	4,75,572	37.05
2008	7,65,720	61

Source: Sub-registrar office

Size Wise Transactions

Size of area (Figure.2) under transaction shows that small holdings are largely transacted in the study area. Only 11.1 percent of the transactions correspond to over 1 acres of land. This means that land transacted for agricultural purposes in the area are very low. As such there is every possibility to expect that land transactions in the study area are essentially for construction, residential purposes and speculative purposes. The huge share of transactions in the size-class, 0-50, raises a number of questions. The proliferation of land holdings will be a burning issue before the government to acquire land for developmental activities and for large-scale investments. The size-class pattern of land transactions reveals the extent of sub division of plots or fragmentation of land holdings in the study location. This being the case in a rural setting, the problem may be more acute in an urban space of Kerala.

Figure.2: Size Wise Transactions

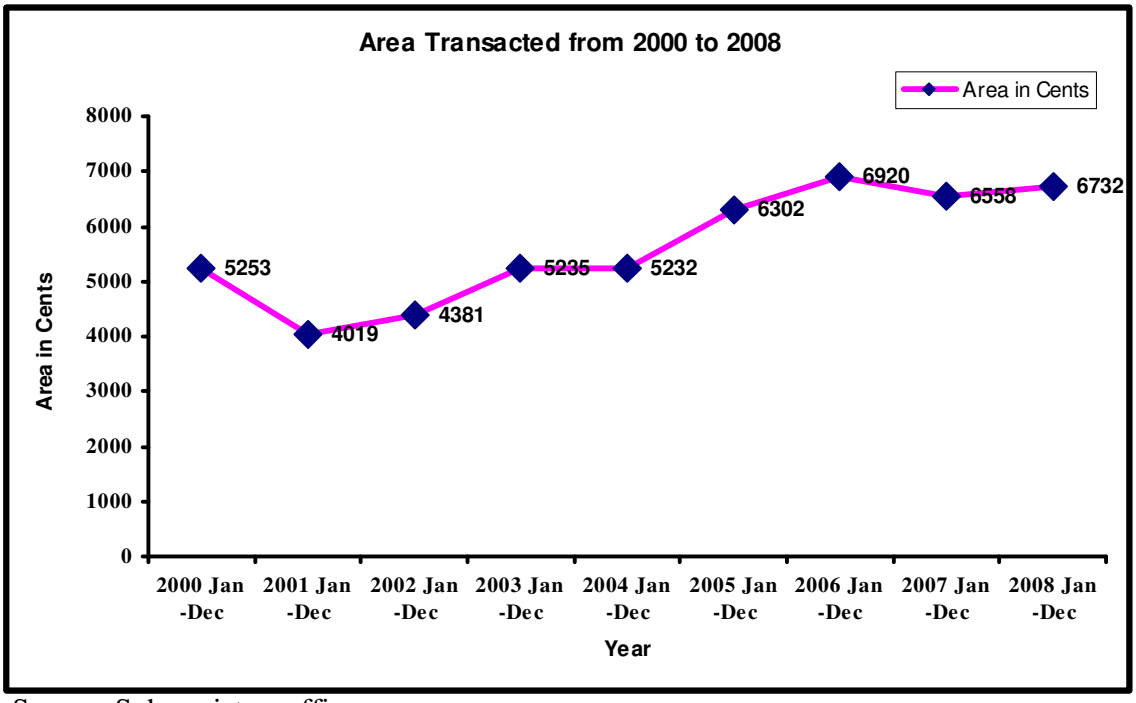


Source: Sub-registrar office

Area Transacted

The area transacted in the land market could be used as an indicator of intensity of speculation. An increase in the area would be an indicator of increased speculation and vise-versa. Figure 3 presents the total area transacted in Badiadka from 2000 to 2008**.** The area transacted is increasing over the years. The total area transacted in a year shows the activeness of land market. As the share of small holdings remained the same over the years, it is the large holdings with a greater weight that has pushed up the area transacted. There could be some amount of reciprocity between the increase in total area transacted over the years and speculative nature of land transactions.

Figure 3: Area transacted

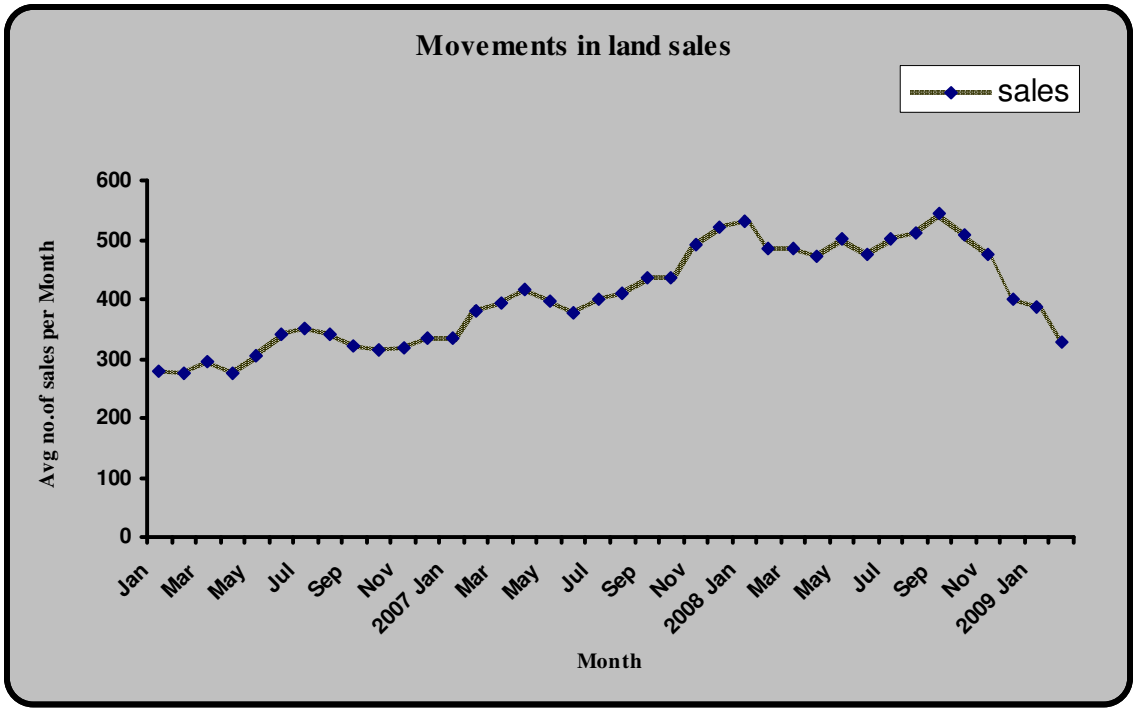


Source: Sub-registrar office

Land sales

The yearly data on number of land sales do not explain the impacts of economic fluctuation in land market. An analysis of monthly sales data is expected to provide more insights on this. The present study makes use of the raw data on number of sales in each month from January 2000 to February 2009. To eliminate the fluctuations on account of the seasonality and cyclicality in the data, a three -month moving average is arrived at.

Figure 4 Trends in Land Sales (2006 Jan to 2009 Feb)



Source: Sub-registrar office

Figure.4 shows the movement in the moving average of sales transactions for 34 months i.e., from January 2006 to February 2009. It shows an upward trend till September, 2008 and then it starts to decline. In September 2008 the number of transactions were the maximum.

For a detailed analysis of the trends in land market sales, the number of monthly land sales was regressed upon time. Specifically, the following regression model was fitted.

$$LS = \alpha_0 + \alpha_1 t + \alpha_2 t^2$$

Where,

'LS' represents the number of land sales per month,' t' represents time with values ranging from 1 to 34 representing each month.

Results from the estimated regression is reported as under

$$\mathbf{Y = 220.97 + 16.57\ t - 0.28\ t^2}$$

$$\mathbf{(9.80)\quad (6.22)\quad (-4.23)}$$

$$\mathbf{N = 34,\ R^2 = 0.85}$$

(The figures in parenthesis are t values)

The results from the regression suggest that land sales are having a positive and statistically significant growth path in the initial period with the coefficient of the time variable 't' being 16.57. However, it is interesting to note that there is a deceleration in the growth of land sales over time. The coefficient **(– 0.28)** of the square term **(t^2)** is negative and significant. This confirms the findings from the graphical analysis of the movement in land sales.

Land Prices

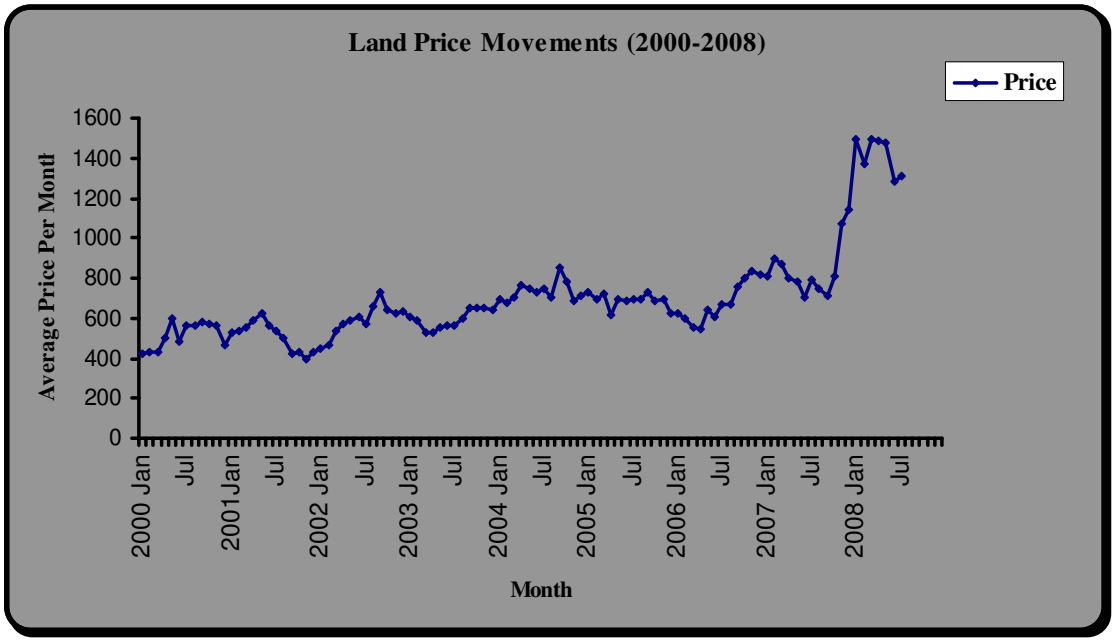
Land is not like any other factor of production. One of the peculiar characteristics of land is the inelastic nature of its supply. It is believed that in land market, prices are generally downward rigid. The price or value of land quoted in the Sub-registrar office is grossly underestimated. Market prices are often found to be much higher than the prices reported in the sub registrar office. But there could be some degree of proportionality between reported price and market price. On an average, reported price could be some fraction of the actual market price. Thus it is expected that the reported prices would indicate the trend of the actual market price. Hence, in the absence of the market price, we opt to use the reported price for understanding the price movements.

Figure 5 shows the movement of reported land prices from 2000 to 2008. We have the raw data of the total value of each plot transacted. By dividing the total value by area, we arrive at the average price of a unit of land (in cents) for each month. This calculated unit price is found to be highly fluctuating. To smooth the series, a seven-month moving average is used.

Prices in general and land prices in particular are usually downward rigid. More so in the present context, the reported prices are less likely to fall. However, figure 5 shows a

declining trend from its peak in August 2008 commensurate with the fall in the number of sales. One possible explanation for this paradoxical result is that sales transactions in the prime locations having high land prices could have reduced. Prime locations are expected to have higher intensity of speculation. This in turn, has contributed to a decline in average prices of land in the region

Figure 5: Trends in Land Prices



Source: Sub- Registrar Office

One can visualize a boom in land market till August 2008. Boom represents a period of higher speculation. But the speculative bubble began to burst with the onset of economic recession. In the land market of Badiadka, it starts from September 2008. This is in conformity with the theoretical postulates of Foldvary**.** Foldvary (1998) argues that higher levels of speculation in land market leads to lower productivity in agricultural land and decrease in wages. There arises a mismatch between the high cost of land and low returns from land. This ends up in the onset of economic recession in land market. Naturally land market becomes the first to respond to economic recession as the speculative behaviour is more intense here than elsewhere.

Section II: Timing of Economic Recession

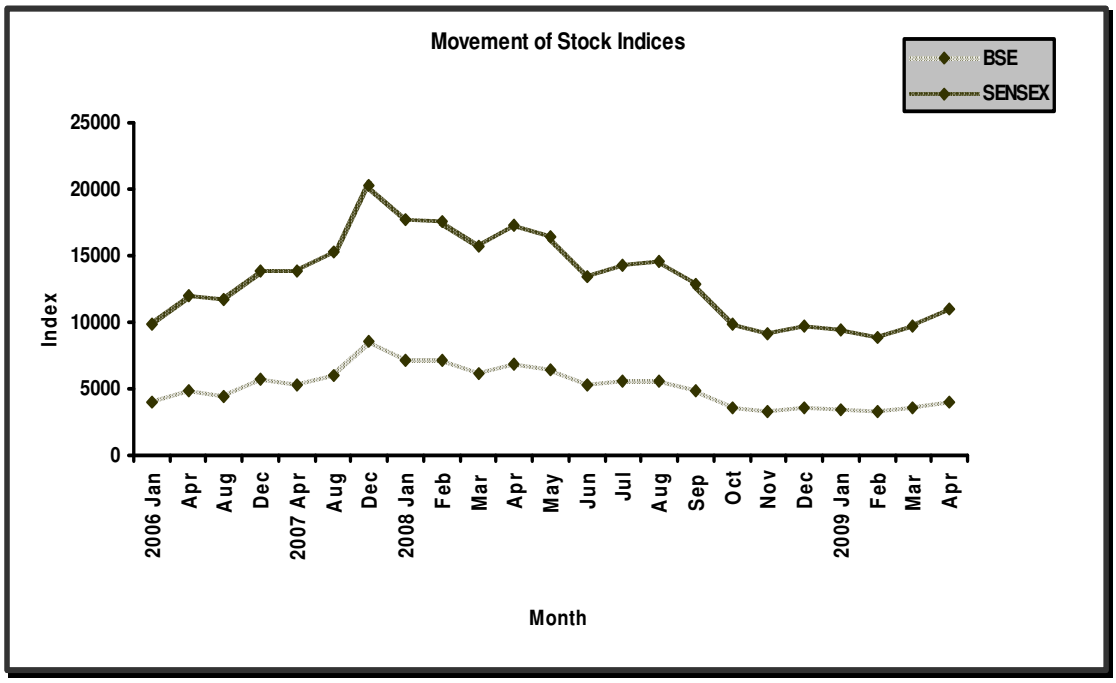
An analysis of the trends in area transacted, sales and prices are suggestive of the existence of speculative behaviour in the land market. In fact, the speculative behaviour in itself could be used to address the issue of economic recession setting in the land market. It is interesting to see that economic recession has been visible in the land market from September 2008 onwards. This was reflected in all the key variables that were examined. Following Foldvary (1998), it is hypothesized that among the domestic variables, economic fluctuations (business cycles) are first felt in the land market. This is because land transactions involve a greater amount of risk as compared to other types of exchanges. The volume of money required for a single transaction itself could be much higher than any other exchange. To verify the above hypothesis, we compare the timing of economic slowdown in some key sectors that are having international and domestic links.

Stock market

The current economic slowdown emanated from liquidity crisis is expected to impact initially upon those sectors that are having inter-linkages with the global market. Following this premise, one would expect the stock price to slash first. This is because stock market is not only linked to domestic economic conditions but also to international economic movements. Any change in international economic environment is expected to reflect first in the stock market.

Figure 6 shows that the index of stock prices start to decline from January 2008 onwards. This is because of the global linkages of stock markets. In December 2007[2] stock price was at its peak. After that it started declining.

Figure 6: Movement in Stock Prices



Source: Bombay Stock Exchange

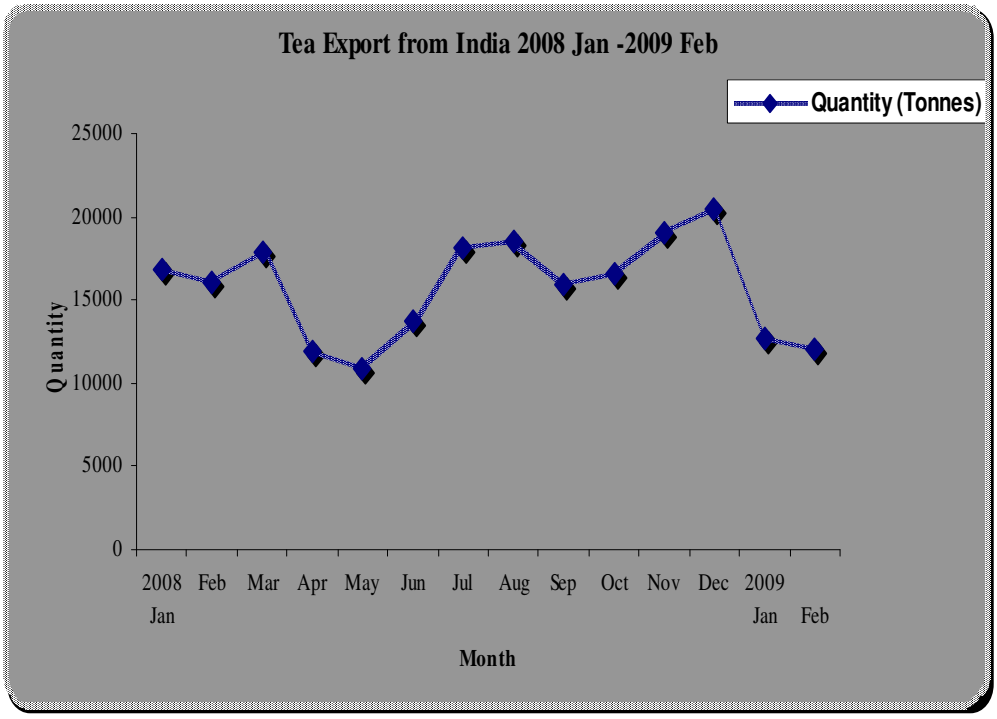
Export Sector

Data on yearly growth rate of exports do not help us to know the timing of recession in the export sector. Hence, we have chosen tea export with its monthly data to see the impact of international liquidity crisis on an item having an export orientation. Tea had first position in our exports in certain years. Trends in tea export show a reduction in quantity from January 2009 onwards only. Thus, tea export, even with its international orientation has responded to economic recession much later than the land market.

[2] The Centre for Development Studies Report on Global Financial Crisis and Kerala Economy: Impacts and Mitigation Measures point out that the BSE index declined from over 20000 during the early months of 2008 to 9000 during the last week of November 2008.

Precisely it took five months more compared to the land market to respond to the recession. It is shown in Figure 7.

Figure 7: Tea Exports from India, Jan 2008- Feb 2009.



Source: UPASI

Industrial Sector

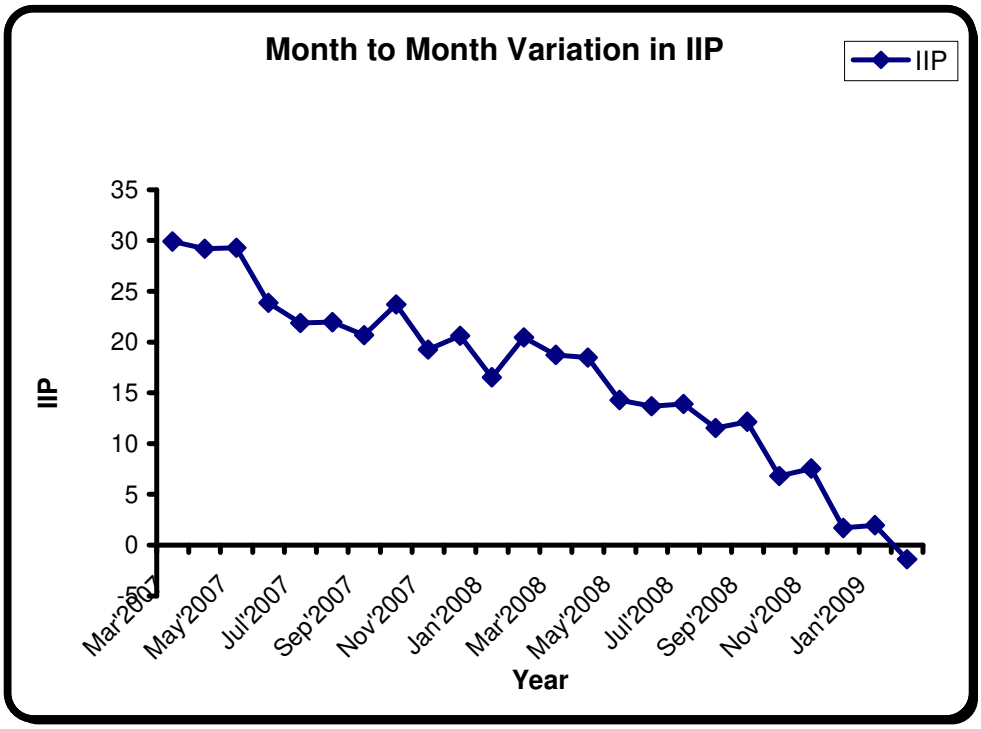
For the domestic impact of economic slowdown, the index of industrial production would be a suitable indicator to look at. Index of Industrial Production (IIP) is an abstract number, the magnitude of which represents the status of production in the industrial sector for a given period of time as compared to a reference period of time. Table 3 shows the index of industrial production from March 2007 to February 2009.

Table 3: Month to Month Variations in IIP

Month	IIP
Jan'2008	17
Feb'2008	20
Mar'2008	19
Apr'2008	18
May'2008	14
Jun'2008	14
Jul'2008	14
Aug'2008	12
Sep'2008	12
Oct'2008	7
Nov'2008	8
Dec'2008	2
Jan'2009	2
Feb'2009	**-1**

Source: CSO, 2009

Figure 8: Month to Month Variations in IIP



Source: CSO, 2009

From Table 3, it is clear that the setting of recession in the domestic sector was much later than the sectors with international orientation. By analysing the IIP, we can understand that economic slow down has affected the industrial sector only by the end of 2008. The month to month variations in IIP is plotted in the Figure 8. It shows a declining trend and it becomes negative only in February 2009. Essentially, it took a lag of six months to respond to recession as compared to the land market.

Comparison between Different Sectors

In the above sections, we have presented the timing of recession in different sectors of the economy. Only in stock market the reflections of economic recession was felt much earlier than other sectors. This may be because of the fact that stock market is interlinked to global economic conditions. The monthly data on overall exports is not available. Therefore, we opted for a commodity that has an international orientation. The data on tea exports reveals that the setting of recession in export sector was in February 2009. The domestic variable, Index of Industrial Production, responded to economic slow down only in February 2009. The Table 4 shows the timing of recession in different sectors.

Table 4: Timing of Economic Recession in Different Sectors

Sl.No	**Sectors**	**Timing of Recession**	**Swing from land market (in no. of months)**
1	Stock Market	January 2008	-7
2	Tea Export	January 2009	+5
3	IIP	February 2009	+6
4	**Land Market**	**September 2008**	**0**

Conclusion

The study reveals that economic recession has affected the land market of even a rural segment in Kerala. It could be expected that its impact could have been felt much earlier if one is focusing on an urban land market with greater real estate penetration. Still, even with the visible trends from a rural land market, we could examine the timing of economic slowdown in a comparative framework. Among the sectors under consideration, stock market responded first to the recession because of its global character. Within the domestic sectors, land market is relatively early in responding to economic slowdown. This result has interesting policy attributes. A close watch at the movements in key variables such as number of sales, area transacted and land prices would therefore help a long way in shaping right policies to ward off economic fluctuations. Similar to that of stock indices, wholesale price indices etc.., it is high time to have an appropriate index for land market movements.