Employment in the public and organized private sector

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Abstract: **In this project we explained about the formal and informal sector of the Indian economy. We all know that in our country there are so many sectors contributing to our Indian national income and per capita income. So, in the sense we can say that our country has a studious growth in the employment of many sectors. So, in this project the employment in the public and organized private sector's growth has been given. We explained the data and interpretation and the methodology.**

Keywords- Employment, Public Sector, Private Sector

I.   INTRODUCTION

The role of employment is of paramount importance in ensuring economic security in developing nations. For the majority of individuals, it serves as the primary means of sustenance and personal satisfaction. The primary objectives of economic policy encompass the facilitation of growth and the augmentation of job prospects throughout various sectors within a nation. Employment has consistently been regarded as a fundamental component of development policy in India. Consequently, the government has consistently prioritized and devoted attention to the formulation and implementation of Five Year Plans. Additionally, it initiated novel techniques, strategies, policies, and programs aimed at fostering employment opportunities. Following the year 1947, India initiated a development approach centred around industrialization, which was subsequently extended to encompass all sectors of the economy with the involvement of the labour force. During the mid-1970s, the issue of job growth became a significant focal point in the realm of Development planning. However, the country's economic and demographic performance has not met previous predictions. Consequently, there was a rise in the rate of unemployment. Efforts were undertaken to prioritize job-oriented development by promoting the expansion of sectors that generate significant employment opportunities. This involved incorporating employment as a key priority within macroeconomic and sector-specific policies. The early 1990s marked the commencement of economic reforms, which encompassed the deregulation of domestic economic activities and the liberalization of foreign trade and investment regimes. The anticipation was that the process of liberalization would result in a more rapid increase in employment, hence fostering greater employment expansion (Sudhakar et al., 2012).

II.   THEORETICAL BACKGROUND

In this project we talked about employment in the public and private sector in India. We know the fact that after the reform period the employment rate increased from the agricultural sector to the other sector. In this project we will talk about the public and private sector employment trend. First, we need to know about this.

The public sector represents the segments of the economy owned and operated by the government. These organizations typically do not seek profit and often provide public services to the government. There are so many advantages to working in it. This sector employees typically enjoy more job stability because their organizations do not need to face market pressures. Individuals working for government agencies often receive a comprehensive benefit package. These benefits may include health insurance and retirement benefits. This advantage can make it easy for such employees to move amongst different public-sector jobs while retaining similar benefits. Some individuals may enjoy the public sector because it can provide opportunities to serve the community. There are so many public sectors like govt agencies, public purpose corporations, public authority and state-owned enterprises. On the other we have the private sector which represents the segment of the economy owned and operated by individuals and for profit-companies. Unlike the public sector, companies in the private sector are not government owned or operated. There are also some advantages to working in the private sector. These employees typically receive more opportunities for job advancement because the decisions are based on their performance. They also have more opportunities for pay raises and higher salaries than their public-sector counterparts. There are many types of private sectors like sole proprietorship, partnerships, small and mid-sized enterprises, large corporations and trade unions.

The public sector has made a substantial contribution to the national employment landscape and has served as an exemplar employer by offering workers superior wages and additional amenities in comparison to the private sector. During the period of independence, the operations of the public sector were confined to a narrow range of sectors, including irrigation, power, railways, ports, communications, and certain governmental projects. Following the attainment of independence, there was a significant and quick expansion in the scope and scale of public sector activity. In order to provide reassurance to the private sector regarding the potential limitations on its operations, two industrial strategies were implemented in 1948 and 1956, respectively. The policy resolutions implemented a classification system to categorize the industry. Certain domains were exclusively allocated to the public sector, while others were shared between the public and private sectors, and a few were wholly entrusted to the private sector(Mehta, n.d.).

III.   OBJECTIVES

- The main objective of the study is to analyse employment in the organized public and private sector.

IV.   DATABASE AND METHODOLOGY:

- **Source of data:** The paper has dealt with Employment in the Public and organized private sector in India. The data is collected from the official website of the RESERVE BANK OR INDIA (RBI). There's so many types of data in the Handbook of statistics. The data is from the year 1970-71 to 2011-12. The data is about the growth in the public sector and private sector in the above mentioned year. The linear regression model is where the sector is the dependent variable and the

different year is the independent variable. The data analysis is done by using the software STATA-16.

- **Variable used in the data:**
  There are a total of four variables that are used in the analysis. Those variables are the Years which are independent ones and the Public sector, Private sector and the Number of the person on the live register which are the dependent ones.

- **Method used in the analysis:**
  The methodology proposed is based on the theoretical framework of Time Series Data Regression Methodology. Time series regression is a statistical method for predicting a future response based on the response history and the transfer of dynamics from relevant predictors. Apart from that, simple statistical tools are used too. The equation of the Time series regression is:

$$Y_t = \beta_0 t + e_t$$

The symbol β is used to denote the linear parameter estimates that need to be calculated, whereas e^t symbolizes the innovation terms.

Time series regression is a statistical technique that facilitates the comprehension and prediction of the dynamics of a system by utilizing experimental or observational data. The application of it encompasses the modelling and forecasting of various systems, including those in the fields of economics, finance, biology, and engineering.

V.   DATA ANALYSIS AND ANALYSIS

Dynamics of structural change of an economy in the growth process has been stated by Simon Kuznets. As growth proceeds, the share of agriculture declines while that of so many sectors increase in terms of GDP growth and employment. The data is about the Employment in the public sector and organized private sector. We all know that the first reform happened after the independence of our country. In 1990-91 India faced a financial crisis related to external debt. In this data we'll see how much growth happened after the first crisis in India. So, as we mentioned before, the time before 1990-91 was considered as the pre-reform era. In this time period India has faced many types of economic ups and downs.

So, after the first crisis 1970-71 the growth in the public and private sector was 111 and 67 lakhs per annum. Then after some years the amount really started growing by an impressive amount. After 10 years in the year 1980-81 the growth was 155 and 74 lakhs per annum. This growth in the public and private sector became quite impressive near the reform time. Though the growth was happening but that was not that good. Then as usual the country faced many economic crises that led to the reform in the Indian economy. During the reform period which means the year 1990-91 the employment was 199 and 77 lakhs per annum. And after the reform employment kept increasing slowly and after some years the employment decreased. In the early 20s it was 191 lakhs per annum in the public sector and

in the private sector it was only 87 lakhs per annum. The employment rate was not impressive after the reform. And after the years it sometimes increased and sometimes decreased. Some of the years it also happened that the employment in the private sector remained unchanged. And finally, after the early 20s slow growth rate the economy again took a u turn which led to a rapid growth in the public sector. Comparingly the growth rate was quite lower than the public sector in the post reform era. But unfortunately, it started decreasing again. And from this data we can say that the increase and decrease process kept going. In economic terms we can call this and growth practice of an economy.

On the other hand, there is the number of the live register. During the year 1970-71 the growth in this was just only 41 lakhs per annum. But with time there was also some impressive growth there. After some years the number of live register started increasing rapidly and after 20s it was quite high and during the year 2011-12 it was 402 lakhs per annum.

So, it is clearly shown in the data that the employment in the public and private sector increased after the crisis period but with time it also faced some ups and downs but the number of live register keeps increasing with time.

```
. log using "C:\Users\hp\Documents\dse project log file indian.smcl"

      name:  <unnamed>
       log:  C:\Users\hp\Documents\dse project log file indian.smcl
  log type:  smcl
 opened on:  12 Jul 2022, 00:29:36

. import excel "I:\Indian project data.xls", sheet("Sheet1") firstrow
(7 vars, 42 obs)

. gen year2=1970+_n-1

. tsset year2
        time variable:  year2, 1970 to 2011
                delta:  1 unit

. tsfill
```

In the above output we first create a log file then export the excel data and then generate the year2 so that the output will be easy.

```
. reg PublicsectorEndmarch year2

      Source |       SS          df       MS              Number of obs  =        42
-------------+----------------------------------          F(1, 40)       =     49.53
       Model | 12916.3368          1  12916.3368          Prob > F       =    0.0000
    Residual | 10432.1632         40   260.80408          R-squared      =    0.5532
-------------+----------------------------------          Adj R-squared  =    0.5420
       Total |   23348.5          41   569.47561          Root MSE       =    16.149


 Publicsect~h |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       year2 |  1.446803   .2055876     7.04   0.000     1.031295    1.862311
       _cons | -2708.362   409.2298    -6.62   0.000    -3535.446   -1881.278
```

In the above output we regressed the public sector with year and we can see the result. The no of OBS is 42 and the R-square is 0.5532 and the adjusted R square is 0.5420. The root MSE is 16.149 here.

```
. reg PrivatesectorEndMarch year2

      Source |       SS          df       MS              Number of obs  =        42
-------------+----------------------------------          F(1, 40)       =    148.96
       Model |  5218.3697         1   5218.3697          Prob > F       =    0.0000
    Residual |  1401.27315       40  35.0318289          R-squared      =    0.7883
-------------+----------------------------------          Adj R-squared  =    0.7830
       Total |  6619.64286       41  161.454704          Root MSE       =    5.9188


 Privatesec~h |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       year2 |  .9196175   .0753479    12.20   0.000     .7673337    1.071901
       _cons | -1749.142   149.9828   -11.66   0.000    -2052.268   -1446.015
```

In the above output we regressed the private sector with year and so we can see that the total MS is 161.454704 and the R-squared is 0.7883 and the adjusted R-squared is 0.7830 and the root MSE is 5.9188.

```
. reg NumberofthepersonontheLive year2

      Source |       SS           df       MS            Number of obs   =        42
-------------+----------------------------------         F(1, 40)        =    272.11
       Model | 598225.799          1  598225.799         Prob > F        =    0.0000
    Residual | 87938.9868         40  2198.47467         R-squared       =    0.8718
-------------+----------------------------------         Adj R-squared   =    0.8686
       Total | 686164.786         41  16735.7265         Root MSE        =    46.888


Numberofth~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       year2 |   9.846285   .5968986     16.50   0.000     8.639908    11.05266
       _cons |    -19314.1   1188.149    -16.26   0.000    -21715.44   -16912.76
```

Now we regress the number of the person on the live register with the year and in the result, we can see that the total MS is 16735.7265. In this output the R-squared is 0.8718 and the adjusted R-square is 0.8686. The root MSE is 46.888.

```
. reg PublicsectorEndmarch PrivatesectorEndMarch NumberofthepersonontheLive year2

      Source |       SS           df       MS            Number of obs   =        42
-------------+----------------------------------         F(3, 38)        =    151.86
       Model | 21550.9618          3  7183.65394         Prob > F        =    0.0000
    Residual | 1797.53817         38  47.303636          R-squared       =    0.9230
-------------+----------------------------------         Adj R-squared   =    0.9169
       Total |   23348.5          41  569.47561          Root MSE        =    6.8778


      PublicsectorEndmarch |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
---------------------------+----------------------------------------------------------------
     PrivatesectorEndMarch |   .4185973   .2609136     1.60   0.117    -.1095947    .9467894
NumberofthepersonontheLive |   .3486513   .0329357    10.59   0.000     .2819763    .4153262
                     year2 |  -2.371066   .5299991    -4.47   0.000    -3.443993   -1.298139
                     _cons |    4757.71   1027.403     4.63   0.000     2677.842    6837.578
```
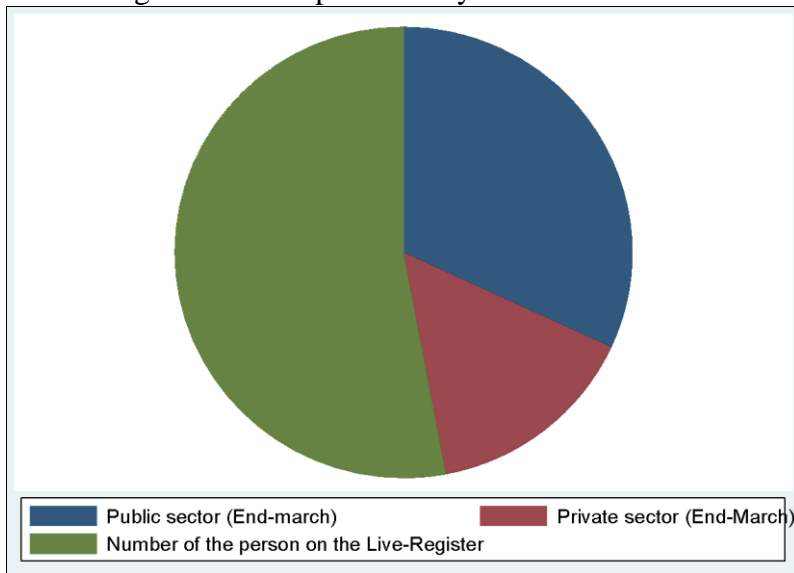
In this output result we regressed all variables with year. Here we can see the R-squared is 0.9230 and the adjusted R-squared is 0.9169. The root MSE is 6.8778 here.
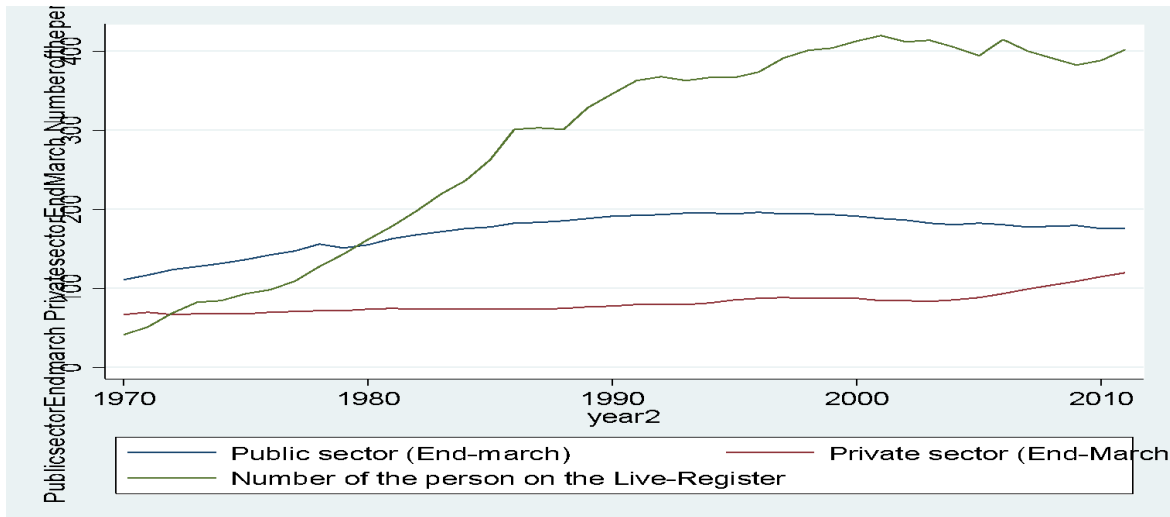
In this graph we showed the growth in the public and private sector and no of the people on the live register with respect to the year.

In this above graph we can see that the variation happened in the three categories.
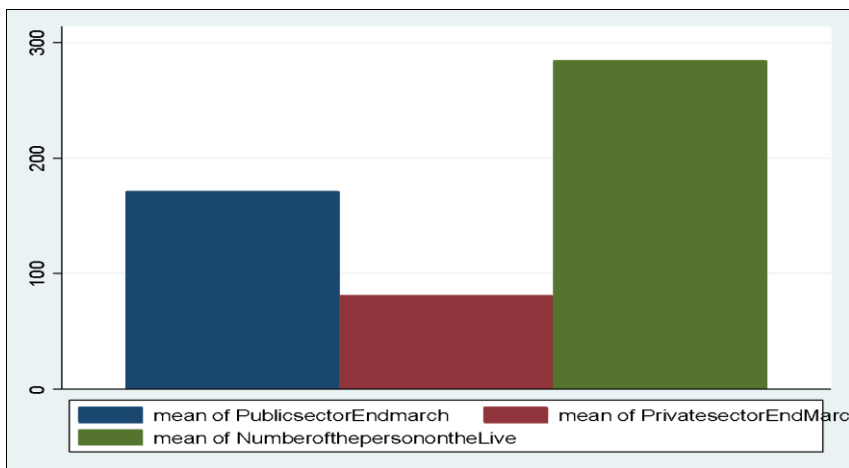
In the bar diagram we can see the growth in private sector growth quite lower.

```
. dfuller PublicsectorEndmarch

Dickey-Fuller test for unit root                 Number of obs   =         41

                          ——————— Interpolated Dickey-Fuller ———————
                Test        1% Critical      5% Critical      10% Critical
             Statistic        Value            Value            Value
────────────────────────────────────────────────────────────────────────
 Z(t)         -5.149          -3.641           -2.955           -2.611
────────────────────────────────────────────────────────────────────────
MacKinnon approximate p-value for Z(t) = 0.0000
```

Here we can see that the p-value is 0.0000 which is less than 0.05 so it rejects the null
hypothesis and the data does not have a unit root and is stationary.

```
. dfuller PrivatesectorEndMarch

Dickey-Fuller test for unit root                 Number of obs   =         41

                          ——————— Interpolated Dickey-Fuller ———————
                Test        1% Critical      5% Critical      10% Critical
             Statistic        Value            Value            Value
────────────────────────────────────────────────────────────────────────
 Z(t)          4.364          -3.641           -2.955           -2.611
────────────────────────────────────────────────────────────────────────
MacKinnon approximate p-value for Z(t) = 1.0000
```

Here also we can see that the p-value is 1.0000 which is greater than 0.05 so it fails to reject
the null hypothesis and the data has a unit root and is non- stationary.

```
. dfuller Numberofthepers3ononthelive

Dickey-Fuller test for unit root                 Number of obs   =         41

                          ——————— Interpolated Dickey-Fuller ———————
                Test        1% Critical      5% Critical      10% Critical
             Statistic        Value            Value            Value
────────────────────────────────────────────────────────────────────────
 Z(t)         -2.989          -3.641           -2.955           -2.611
────────────────────────────────────────────────────────────────────────
MacKinnon approximate p-value for Z(t) = 0.0360

.
```

Here also we can see that the p-value is 0.0360 which is less than 0.05 so it rejects the null hypothesis and the data does not have a unit root and is stationary.

VI.   CONCLUSION

The acquisition of gainful employment holds significant importance in fostering economic development. India is characterized as a diverse developing economy with a significant contribution from the private sector. This study documents the significant shifts in employment patterns within the organized sector in India from 1988 to 2008. The aforementioned deduction has been reached, indicating a marginal rise in the overall employment within the organized sector. In the realm of organized labour, there has been a notable decrease in public-sector employment, while private sector employment has experienced a more substantial gain. In the context of transportation, storage, and communications, there was a reduction observed in the public sector, whereas these sectors exhibited a consistent performance in the private sector. The proportion of employment in the finance, insurance, real estate, community, social, and personal service sectors has experienced a notable increase. The structure of employment in the organized sector of India has experienced several modifications overall. It is probable that the unorganized sector would witness the emergence of new employment prospects. The prevailing conditions of employees, along with the absence of employment opportunities and inadequate social security measures, will serve as defining features.

VII.   REFERENCES:
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