

**Thesis Summary**

**THE THEORY OF PERSONAL INCOME  
DISTRIBUTION**

A THESIS SUMMARY SUBMITTED IN FULFILLMENT  
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## **Research Guide:**

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### **About the Thesis:**

The aim of the thesis is to build a versatile model, which integrates the functional distribution of income with the personal distribution of income without using the marginal productivity theory. The broad objectives of this study are as follows:

1. To explore and assess the development in literature on the distribution of income, focusing particularly on comprehensive and contemporary theories proposing the causes of inequality in the distribution of personal income
2. To develop a robust theoretical framework capable of addressing the distribution of income, property, and wages and further analyzing the impact of human capital on the distribution of wages and income
3. Inspired by the institutional theory given by Herbert Simon (1957) (1958), study in depth the impact of firm size distribution, the level of operations in the industry and the hierarchical structure in the firms on the distribution of income
4. To explore the impact of technological progress, changes in consumption preference, levels of hierarchy and the wage differential between levels of hierarchy on income on the distribution of income
5. To analyze the effect of policy tools like taxation and subsidy on the distribution of income and consumption. Analyzing the impact of different tax structures and types of subsidy on the redistribution of income and consumption and consequently, on economic growth and social welfare.

## **Background**

Theories of the distribution of income have usually been of two types (i) theories of the functional distribution of income and (ii) theories of the personal distribution of income. Theories of functional distribution of income had been a central concern of the classical economists from Adam Smith to Karl Marx. Joan Robinson, Nicholas Kaldor and Luigi Pasinetti and their followers, revived them after the 1950s in the wake of the post-Keynesian revolution. The marginal productivity theory that was developed after the 1870s was also designed to determine the functional distribution of income. However, these theories have not much to say about how the functional distribution of income shapes the distribution of income between persons.

Theories of the personal distribution of income have typically been of two types (i) those that have modeled the personal distribution of income primarily as a stochastic process and (ii) those that have emphasized on one or more dominant factors that determine the personal distribution of income, for example, choices, inherited wealth, human capital and so on. These theories do not have much to say about how the incomes themselves arose, that is to say, which rewards they precisely represent.

The theory given by Joseph Stiglitz (1969) is a truly comprehensive theory and holds a distinctive place in the literature for being the only theory that successfully integrates the functional and personal aspects of income distribution based on marginal productivity theory. In order to steer clear from the capital controversies, we have not used this theory for building the theoretical model.

In the recent times, several eminent economists like Raghuram Rajan and Luigi Zingales (2003), Joseph Stiglitz (2012), Thomas Piketty (2014) echoing Paul Krugman's 1992 article, and most recently, Anthony Atkinson (2015) have squarely attributed the causes of the Great Recession to lie in the worsening of economic inequality. However, none of these theories are able explain how the income inequality in itself arises and rises.

In this thesis, the theory being advanced clearly belongs to the Classical and Post-Keynesian tradition. Therefore, the functional distribution of income plays a central role in the theory. However, it has a direct connection with the personal distribution of income when it is explicitly recognized that the organization of production of goods and services in a capitalist economy exhibits two structural characteristics (i) that industries are composed of firms of unequal sizes and (ii) that firms and the functionalities that it performs are organized as hierarchies. These institutional features are fused together with the economic forces of demand and supply (i.e. technology, production, consumption and investment) to determine the functional and personal distribution of income in an overall equilibrium. Further, the complexity of technologies of production and of functionalities like accounting, manpower planning, marketing, etc. necessitate the performance of specialist roles that require human capital, which constitutes yet another factor determining the distribution of income. Other factors such as taxation, subsidies, government expenditure, etc. have been modeled at appropriate place.

### **Approach and Methodology**

- The model is built using the Sraffa system of equations. The Sraffa equations give a snapshot of the economy. It forms a prudent foundation for the theory, which explains both the distribution of capital and labor income.
- The system of equations is extended to include in its scope the levels of hierarchy in the industry based on the work of Herbert Simon (1957) as we know that a pyramidal hierarchical structure is an inherent characteristic of a capitalist economy.
- Initially, in order to isolate the impact of hierarchical structure on the distribution of income, it is assumed that the firms within the industry are equal in size. However, in reality, the firms are unequal in size. Based on the work of notable economists Herbert Simon and Charles Bonini (1958) on the firm size distribution, the system of equations is expanded to include firms of different sizes within the same industry.

## **Conclusion**

The leading conclusions obtained are:

- In an organization, there are multiple levels of operation resulting in hierarchies and hierarchies induce differences in wages at each level depending on the nature of responsibility and risk. Keeping all other factors unchanged, narrowing the difference between the wages at each level of the hierarchy, the income inequality within the organization would decrease.
- The compensation earned by labor in the hierarchical structure depends on two factors (i) the number of levels in the hierarchy and (ii) number of persons employed at each level. The level of inequality within the organization is low (or high) when the number of levels in the hierarchy is few (or many), assuming all other factors unchanged. If the economic system is composed of firms that have flat organizations, the degree of income inequality is moderated.
- There is a direct relationship between the concentration of firms in the industry and the inequality in the distribution of income. This implies that the distribution of income is affected not only by the internal organizational structure but also by the market share of the firm in the industry. Therefore, keeping all other factors unchanged, in a highly concentrated industry, a firm with the highest share in the industry will earn highest profits and consequently, the labor employed in that firm will get highest compensation compared to other firms with comparatively lower shares in the industry, which will result in higher income inequality.
- The hierarchical structure based on different functionalities essential to undertaken different responsibilities can only exist when the labor invests in human capital development to learn and hone their skills. In case of relationship between investment in human capital and distribution of income, two main observations were found.

- (i) A person who takes education lasting over many years will have more skills and training making him/her a high paid resource as compared to the person who takes education lasting over few years. Therefore, the level of inequality is positively related to the duration of education.
  - (ii) A person who starts education at a later age in his/her life-cycle will have lesser number of years to earn high income as compared to the one who receives education at an earlier age. Thus, there is a negative relationship between the level of income inequality and the age at which education is received.
- The inequality in the distribution of income is reduced by levying taxes on incomes earned. When uniform tax is levied, labor employed in all levels of hierarchy is taxed at same rate irrespective of the differences in the income earned. Contrary to the objective of taxation, this increases the level of income inequality. When progressive tax is levied, the tax rate increases with the increase in income earned and hence, the level of income inequality declines. Therefore, progressive tax structure is prevalent in majority of the economies.
  - Another policy affecting the distribution of income and mainly consumption is the indirect taxation. Excise duty is one of the forms of indirect tax, which is levied on final goods produced and is passed on to the consumer in the form of price hike. This adversely affects consumption and income composition at all levels of hierarchy and increases the level of inequality.
  - Subsidies can be granted to compensate for the excise duty burden and to reduce the inequality. Subsidies are typically of two types- cash transfer and income subsidy. Typically, the lowest class of labor has highest propensity to consume. Therefore, if the subsidy is granted only to that class, this affects consumption inequality more than income inequality. However, as the price hike affects all the classes of labor, subsidy granted to all classes would lead to higher redistribution of income and significant reduction of consumption inequality.

Between the two types of subsidies, subsidy in the form of cash transfer is the most efficient policy tool to achieve the social objective of higher social welfare.

### **Limitations**

As we conclude, it is imperative to point out certain limitations of the present model/theory. Firstly, the theory is developed from the standpoint of industrial economy, while agriculture sector, which is mainly unorganized, plays an important role in the economy, especially in case of developing countries like India. Thus, our theoretical framework lacks inclusion of agriculture and unorganized sector. Secondly, inheritance is a major factor influencing the distribution of income. Although influence of inheritance is implicit in the model, further work needs to be done by taking inheritance explicitly. Thirdly, the differences in political structure affect the business operations and consequently, the distribution of income, therefore, it needs to be studied further. Lastly, socio-cultural classes, religious groups and gender are some important factors that influence the degree of workplace ownership and authority. The link between these factors and their influences should to be investigated further.