Production Factors - Productive Factors

& Income Distribution

Draft

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Abbreviations

EV	- exchange-value (price) - value created/added by labor effort for trade (exchange) - relative worth (price) of commodities and services
FI	financial institution
FoP	factor of production (input required for output)
H	- human capital (mental faculties of labor services) acquired and improved by formal/informal education, training and experience - "The skills, capacities, abilities possessed by an individual which permit him to earn income." (The Penguin Dict. of Ec.)
i	- interest rate: (**unearned** income; return on **unproductive savings**) - payment on financial assets like bonds, securites, bank deposits which are "not" productively employed
K	- financial funds employed to combine "all" inputs of production, including the labor services to produce exchange-values - capital goods (machinery and tools) - capital goods (machinery and tools as well as buildings, land) - "all" inputs of production except for **L**
KG	- capital goods (machinery and tools) - nature's supplies transformed (reshaped) into tangible assets by labor effort to assist the laborer in the process of production
Kn	(general) knowledge
L (labor)	- result of work; execution of a task - "**laborers**" (=**workers**) employed in production process who earn a living by hiring labor-time - **mental/physical labor services**
$\mathbf{L^M}$	mental labor services (exertion of human capital)

L^P	physical labor services (eye-hand coordination only)
L^F	labor force (aggregate quantity of laborers at working age)
LE	- labor-effort (labor-power): capacity to labor by setting into motion both mental and physical faculties of laborer - actual use of mental and physical faculties of laborer
LWC	wage cost of labor services (w*L)
p	price (relative worth of a product; exchange-value in money)
Pr	productivity (value-adding ability per unit time/labor)
PF	productive factors (nature and labor effort)
PKn (=**Te**)	productive knowledge (technology); know-how on producing things
q	per plant/sector supplied quantity of product
Q^i	aggregate supplied quantity of products; i = 1,2,3,….,n
r	rate of profit
R	rent; income obtained from property ownership.
S	- savings (money at bank, home safe, under pillow, etc.) - savings NOT employed in the production process
TC	total cost of production (p*inputs)
TR	total revenue (p*q)
Te (=**PKn**)	technology (productive knowledge originating from mental labor)
UV	use-value (utility): benefit arising from personal cunsumption
VA	value added (**π + LWC**): additional/increased value by labor effort
Work	- exertion of mental/physical abilities and capabilities to create/add (use- and exchange-) value
π	size of profit (**TR-TC**)

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> The composition of this book has been for the author a long struggle of escape… –a struggle of escape from habitual modes of thought and expression. The ideas, which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones…
>
> J.M. Keynes, 1973, General Theory… Preface.

Introduction

Every introductory textbook on economics contains some key and fundamental concepts like "factors of production (**FoP**), and income distribution", among others. The textbooks inform us that there are two factors of production; **labor** (**L**), and **capital** (**K**), but often fail to specify what they really mean. But, once upon a time, in the texts of Classical economics, there used to be a third factor of production, the **nature** (**N**) alias land. And some contemporary textbooks claim that there is even a fourth factor, the **entrepreneur** (**E**). In the post-1950 era, the number of the factors of production seems to have increased. There is nowadays a rather influential factor of production "**re-discovered**" by Solow; **technology** (**Te**). In addition, especially since 1980s, there is another influential factor of production; the "**human capital**" **(H**).

Unfortunately, there are no globally agreed definitions on the key terms mentioned above. Nor are there any globally accepted approaches and/or remedies to the economic relations of mankind. The dominant doctrine in the textbooks and among researchers is the Neoclassical one, which seems to be more like "**a playground for the academic economics**" rather than a scientific approach applicable to the analysis and understanding of "actual" global economic issues. Therefore, regarding the present global economic (dis-)order, there

seems to be an urgent need for new as well as realistic approaches from alternative angles with, when necessary, "new" definitions of "old" concepts.

The major aims of this work are partly to reconsider and when necessary to redefine, the "conventional" key concepts such as labor, capital, interest, rent, and accordingly analyze the distribution of functional income. Thus, the questions to be analyzed in the following sections are:

Which are the factors of production? Is the term **production factor**[1] identical with the term **productive**[2] **factor**[3]? What is the difference between them? Which factors "**earn**[4]" a share of the income generated? And which receive an "**unearned**" share? Which forces influence the distribution and redistribution of income among labor[5] and capital; the ability to generate value[6] or the ownership rights?

Related to the above questions are:
What are wages? What are they paid for? And what is capital? Is it simply a certain quantity of "hoarded" money? Or does the term refer to the "capital goods" (**KG**) of production, or both? Why does "capital" get "profit"? Is capital a "productive" factor of production like the nature or services of labor(-er)?

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[1] A **production factor** is a necessary and prerequisite input of production to produce value, such as raw materials, energy, services of employees, buildings, etc.

[2] A thing is economically **productive** if it is capable of providing useful (beneficial) things containing (use- or exchange-) values for end-users.

[3] A **productive factor** is an input capable of producing (use- or exchange-) values.

[4] The income received either in return of labor services supplied or in return of the risk for undertaking production under competitive conditions is called **earned** income. All other types of incomes are designated as **unearned** income.

[5] **Labor:** the term has different meanings, as will be seen. But it will be used, by the author in this work, as synonymous to laborers/workers **hiring** their **mental/physical labor services** for a given period of time in return of wage, unless otherwise stated.

What is indeed Human Capital; labor or capital? Which factor makes the greatest contribution to productivity growth[7] and thus to income generation? What is the nature of incomes such as interest and rent, accruing from money holdings without any labor effort to produce?

A distinctive feature of the analysis will be the distinction between "**productive"** factors and "**production"** factors. This distinction will enable us to better grasp the production relations and the distribution of functional income. Such a distinction is necessary in order to understand the contributions and ensuing rewards of the factors employed in the production process. To be able to say whether the income is distributed "rationally" and "justly", we have to know the specific contribution of each factor to the value-added (**VA= π + r**).

The central hypothesis in this paper is that mental labor assisted by physical labor[8] is the source of "**all value-created/added**" given the nature as the indispensable and irreplaceable supplier of "**all initial value**".[9]

- The nature's supplies as the raw use-values[10] (utilities) are transformed[11] into exchange-values[12] by the efforts of mental and physical labor services[13].
- Mental labor is the sole source of new technologies, which is the incessant source of increased value-added, e.g. economic growth.

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[6] **Value**: relative worth or utility for end-users.
[7] For the definitions of terms like "productivity", "productivity growth", "productivity increase", "technology" see Gürak 2004-b.
[8] **Physical labor** is the simple eye-hand coordination of laborer requiring no mental labor.
[9] For a discussion/evaluation of the terms see Gürak, 2000-a; 2000-b; 2004-a; 2004-b.
[10] **Use-value**: utility enjoyed by the end-user from a product.
[11] Transformation implies the change in original formation/position by some labor effort.
[12] **Exchange-value**: value created by labor for trade (exchange); or the relative worth (price).
[13] **Labor service** is the mental/physical capabilities of laborer in the generation of value.

In the analysis, also new concepts like **earned incomes** and **unearned incomes** will be introduced. In fact, this work is intended to be the continuation of some previous works (see Gürak-1999, Gürak-2000-a and Gürak-2004-a).

Basic assumptions, unless otherwise stated, are:

1. No inflation.
2. No government intervention.
3. Prices reflect market values of products[14].

[14] **Product**: tangible commodities as well as intangible services.

Production factors (FoP) vs. productive factors (PF)

In general, there is no such distinction in the standard textbooks between these two similar yet "rather" distinctive terms. But, as will be seen below, the proper distinction is not only necessary but also a prerequisite for a sound analysis in economics.

Production factors (FoP)

According to the common economic textbooks, there are only two **FoP**, **K** and **L**, used in the production function (**Q**) as indicated below:

Q = f (K, L)

The standard textbooks, unfortunately, provide us with no globally acknowledged definition of capital. They hardly ever specify what it implies but almost never question the nature of capital as to what it actually is or how it has emerged in the first place. "Capital is a factor of production" and that is the end of it. Apparently, a holly concept beyond any doubts and criticism to be taken as it is. At least, it is so for the Neoclassical doctrine and proponents.

The discussion of labor, too, is far from satisfactory, though less cumbersome than capital. In economic models, labor sometimes refers to "uneducated and unskilled" laborers and sometimes to laborers with average skills and education. Whenever the human capital concept is used, it refers to the former, the

unqualified laborers without any education. Yet, the concept of labor also refers to the work done by laborers[15].

In reality, there are more inputs of production than the two above suggested. **Production factors** are the prerequisite inputs of production to produce anything with exchange-value. In analogy, they are like the ingredients of a soup. Without the necessary inputs (ingredients) you cannot make the soup. The **FoP** (ingredients) comprise inputs ranging from raw materials to energy, semi-finished inputs, plant site, etc., as well as labor services. For instance, thousands of inputs of varying qualities are required for the production of airplanes or computers. On the other side, a teacher or a consultant in the service sector seems to perform their tasks with much less physical inputs. Accordingly, a house painter or a shoeshine boy requires considerably less inputs of production than the producers of computers or car producers. Given the mental and physical labor services, the most frequently required inputs of production are:

- Production site (factory, retail shop, hair dresser, etc.).
- Raw materials.
- Energy.
- Semi-finished inputs.
- Management services.
- Marketing services.

Regarding the aim of this work, there are two critical and vital questions that need to be answered:

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[15] We will discuss the concept labor in detail in coming parts.

1. Can a **factor of production** be a "**productive**" factor at the same time, capable of generating/adding value?
2. What is meant by capital and how is it measured?[16]

Productive factors (PFs)

The answer to the first question above regarding the productivity of a factor, the Neoclassical doctrine would claim, without hesitation, that capital is a productive factor. They would argue that the marginal productivity analysis of capital displays this feature clearly.

It is true that some inputs of production display a distinct feature by being "**productive**", i.e., capable of generating/adding value even in the absence of other inputs. But capital is definitely not one of them. Nor are other inputs such as energy, tools, intermediary inputs, except for labor services, are "productive" in any sense.

There are only two kinds of "productive" forces fitting the definition:

1. Nature (**N**)[17], i.e., the supplier of all use-values (utilities) in the shape of raw (unprocessed) inputs; and
2. Labor efforts (**L**), i.e., the "only" factor capable of adding value to nature's supplies.

The fundamental difference between the **FoP** and **PF** is the ability of the latter to produce value. Every **PF** is, at the same time, a **FoP**, but every **FoP** is not a **PF**.

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[16] This is one of the well-known "Cambridge controversies".
[17] Also, and frequently, referred to as "land".

The nature: a "production" and "productive" factor

It is a commonly acknowledged fact that nature is capable of providing its output, i.e., the raw materials, of any production even in the absence of all external assistance, including labor efforts. That feature makes the nature, beyond any doubt, a "productive", synonymously, "fertile" factor. There are thousands of kinds of live arising and surviving due to the fertility of nature. All kinds of species on earth, even the human beings, the most advanced specie of all creatures, take their nourishment from the gifts (products) of nature. There would be no form of life without the productivity (fertility) of nature. Thus, the nature is a "productive" factor beyond any doubt in the sense that it provides the things with use-values (utilities) such as water, plants, fruits, vegetables, etc., for the mankind.

The end-users, in our case the human beings, consume the products of nature, which possess use-value (utility), to survive. As long as the products of nature are used for personal or family consumption, they contain "use-value" only for the end-users. For instance, apples on a tree in no-mans' land indicate **use-value** (**utility**) if used for personal consumption. But, if they are brought to the market by labor effort of collecting and transporting, they contain exchange value.

To set an example, say that Deniz, the father of family, collects some fruits, the "free gifts of nature", to feed his family. The fruits contain "use-value" (utility) for his family. Assume that Deniz possesses more apples than required and

exchanges the surplus with oranges. The apples they consumed had "use-value" for his family but the surplus apples exchanged for oranges had "exchange-value". These are the concepts and relations often cited in the works of Classical economists, which show us that "exchange-values" arise only when some labor-time is expended on the product. Concisely, the nature provides things with use-values, which are either consumed directly by end-users or used as exchange-values involving labor time.

In addition to being a productive factor, the nature also provides all kinds of inputs required for output of all kind in the form of raw materials. Therefore, the nature is not only a productive factor, but her products are the indispensable products (inputs) of production in the form of raw materials. In the absence of raw materials as (inputs) factors of production, there would be no physical items re-shaped by labor for consumption, such as computers, cars, houses, TV-sets, etc.

Ever increasing number of advanced commodities offered to the end-users has their origins in the nature in the form of raw materials. But, unfortunately, the generosity of the nature is not unlimited. A polluted and eventually dying nature would imply an end of all civilizations and technological advancement, regardless of the development level. For the sake of sustainability and further advancement of societies, very good care has to be taken of the nature mother.

Labor(-er): a "production" and "productive" factor

Let us recall that in orthodox economic books, there were only two factors of production.

Y = f (K, L)

where **L** denoted labor, e.g. "i" quantity of laborers[18] (i=1,2,…,n). The textbooks normally do not specify the features of the **L** whether it is trained or educated, if so, in what capacity, the degree of talents and experience. But whenever **H** (human capital) is introduced in the analysis, the ensuing and logical conclusion would be labor is untrained/uneducated, endowed with the basic eye-hand coordination only. That means **L** does not possess any abilities or experience, except for simple eye-hand coordination, only.

Regardless of the degree of abilities/capabilities of the laborers, labor is normally regarded, by the orthodox Neoclassical doctrine, as a "**productive**" factor of production receiving a share of income in accordance with its marginal productivity. The role played by the marginal productivity according to Neoclassical doctrine is subject to discussion. But, the fact that labor is productive, i.e., capable of producing value, is a fact beyond any doubt. Labor services can "**generate/add value"** to the supplies of nature by transforming (reshaping) them, either for personal use or for trade. Among all inputs of production, only the labor services are capable of "adding value", given the nature's supplies (Gürak, 2000-a; 2004-a; 2004-b).

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[18] Laborer is used as synonymous to worker or employee.

At this stage, it would be useful to discuss some related concepts, such as labor (mental and physical), labor-services, laborer, and labor –force, before proceeding further with the analysis.

Some related definitions

Labor (**L**): according to some economic textbooks and models, given **H**, **L** refers to "i" number of laborers endowed with eye-hand coordination only. Although many analysts are well aware of the fact that **H** and **L** are actually two sides of the same medallion and that no laborer, especially in our time, is without some degree of formal or informal training/education, they continue to treat **H** and **L** as if two distinct factors of production. This "ideological" ignorance does not only confuse the minds but also lead to incomplete and unsatisfactory economic analysis.

Yet, the word labor, literally, also implies **the execution of work by laborer**. It is the result of the mental/physical efforts of laborer with given "inputs". In other words, labor is the exertion of mental/physical capabilities of laborer to execute a task, i.e., to produce use-/exchange-values. In short, labor is the result of work by laborer.

Laborer is the able-bodied individual, who possesses some **mental as well as physical capabilities** to labor. He/she is the person who carries out the work or task by mental/physical faculties to generate use- and/or exchange values. To put it differently, laborer is the human being who hires his/her services in the market and "**earns**" wages in return. Wages are not paid for hiring the laborer for his/her personality or body as such, but for the services to be obtained in order to realize the production.

Mental labor (L^m) refers to the faculties (abilities and skills) of human mind developed through formal/informal training/education as well as experience, given the natural skills. It is the source of all present and future technologies. As we have discussed elsewhere (Gürak, 2000-a; 2000-b; 2004-a; 2004-b), given the nature's supplies, the mental labor-services is **the genesis and incessant source** of all value generated and thus of economic growth and prosperity.

Physical labor (L^p) is the simple eye and hand coordination of able-bodied man. The execution of physical labor requires, by definition, no special training and/or education nor any mental capabilities. In reality, there is no such thing as "purely" physical labor; it exists in theory, only. Every laborer possesses, more or less, some degree of mental capabilities. Even choosing the right electric button between two, say red or white, requires some degree of mental capability.

Emek: In Turkish language, the word is translated as "emek", which literally implies the **labor efforts consumed at the execution of work**, not the laborers employed. Naturally, one can always argue that since the laborers are the owners of labor services, the word "emek" actually refers to the laborers themselves, in a somewhat dubious way. The question is; why such roundaboutness? Would it not cause confusion when the word is used in the proper sense of meaning? After all, "laborer" and "labor services" are not the same thing and there is another Turkish word for laborer, "**emekçi**".

Labor force (**LF**) implies the total quantity of the laborers (able-bodied men) willing to hire their labor services in return of wages. Economic models normally use **L** in the same sense as **LF** without making a distinction whether

it refers to laborers employed at firm or industry or national level. In this work, **L** shall be used to indicate laborers at firm level, while **LF** shall refer to total number of laborers at national level.

The concept of labor(-er) (L) - reconsidered

A proper definition of labor (**L**) is necessary for sound analysis. In this work, **L** shall refer to laborers willing to work at the going market wage rate. **L** does not comprise able-bodied men with eye-hand coordination, only, for there is no such thing in reality. Each **L** embodies, in addition to physical abilities, some degree of mental faculties acquired and developed through formal/informal training/education enriched by experience.

L is "not" a commodity like a TV-set or radio bought and/or sold in the markets. It is **the only source of any value added** and **the ultimate consumer** of value produced, along with other income obtaining groups, of course. And these features make **L** a rather unique factor of production. Commodities belong to their owners, but **L** is only hired for the labor services for a given period in return of wages. The ultimate control of the labor services belongs to the laborer. Otherwise, it would be slavery.

Since the laborers are endowed with different skills, abilities and experience, the wages paid by end-users in return of the labor services are not, and cannot, is the same for all. In other words, the qualities of labor services are heterogeneous, and so are the wages. Being analytical concepts like quality, faculty, education, ability, skill, experience, a sound measurement and eventually

cross-firm or cross-country comparisons of labor services is rather cumbersome, if not impossible.

To summarize; with regard to the related discussions elsewhere (Gürak, 2000-a; 2000-b; 2004-a; 2004-b);

- **L** is one of the indispensable and irreplaceable **FoP; a**nd,
- **L** is also an indispensable and irreplaceable **PF**.

Capital: a "productive" factor?

The first and major problem with the concept capital arises with its definition. There seems to be no "globally" agreed definition of **capital**. For some, it refers to the "**capital goods**" implying machinery and perhaps tools. For some others, it refers to all inputs of production, ranging from buildings and energy to semi-finished inputs, except for labor services. For some, capital is the total value of assets used in production process, including labor services.

Historical perspective

Capital has always been a vague and controversial subject of economic theory. On this matter, Hausman had, quite rightly, asserted that: **"Economists possess no good theory of capital and interest."** (Hausman, 1981, Ch.10) The theories possess elegant models and theorems but they, he said; **"... do not enable one to explain real phenomena of capital and interest"** (Hausman, 1981, Ch.10) for they fail to understand the substance of phenomenon.

For some Classical economists, the concept capital referred not only to capital goods (**KG**) but also to the wages of labor force and other inputs of production. For instance, Ricardo defined it as;

> **"... that part of the wealth of a country which is employed in production, and consists of food, clothing, tools, raw materials, machinery, etc. necessary to give effect to labour."** (Ricardo, 1990: 95)

Following Ricardo's line of reasoning, Marx defined capital as "a sum of money" with some special characteristics in the hands of capitalists. According to Marx;

> **"... in itself this sum of money may only be DEFINED as capital if it is employed, spent, with the aim of INCREASING it, if it is spent expressly in order to increase it".** (Marx, 1976:976)

Accordingly, the owner of this specific sum of money was referred to as "capitalist". However, self-employed entrepreneurs were excluded from this definition as capitalist though they were driven by the same motive, i.e., making profits or "increasing the sum of money".

Another well-known Classical economist, J.S. Mill, had a similar approach and pointed out that:

> **"What capital does for production, is to afford the shelter, protection, tools and materials which the work requires, and to feed and otherwise maintain the laborers during the process... Whatever things are destined for this use... are Capital."** (in Schumpeter, 1954: 634)

With the Marginalist revolution, the scholars tended to define capital as a **scarce** "physical" input of production, i.e., capital goods (**KG**). It was treated as one of the original productive factors along with land and labor, thus qualified to obtain income, e.g., profit. Austrian school was not quite satisfied with this line of reasoning and made attempts to show that capital could not possibly be considered as one of the original "productive" factors of production. But the Marginalist school survived the challenge.

For Marshall, capital itself was the product of **labor and waiting**. He dismissed the labor-biased propositions that capital was the "product of labor alone" which would compel us; **"... by inexorable logic to admit that there is no**

justification for interest" (Marshall, 1961: 687). Instead, he defined capital as; **"... a store of things, the result of human efforts and sacrifices, devoted mainly to securing benefits in the future rather than in the present."** (Marshall, 1961:787) implying the "capital-goods" employed in production, which are actually products of nature produced by "**human efforts**", i.e., employee's services, and ought to be rewarded for "**sacrifices**", i.e., waiting for future benefits.

In modern theories, it is customary to treat "capital" as a **productive factor** of production like labor services, which entitle the owner of capital to an income, that is profits. This approach regards "capital" as being capable of producing and/or adding value, more than the one transmitted. Thus, as a "productive" factor, it **earns** (receives) income in accordance to its marginal productivity.

Is capital indeed "productive" capable of generating value?

In order to provide a reply to this critical question, three alternative definitions of capital will be reconsidered below.

1. **Capital á la Classical School:** Classical economists had defined capital as the financial funds to initiate production, i.e., to bring together the **FoP,** with the purpose to produce commodities with exchange-values. This definition does cover "**all**" the inputs of production ranging from raw materials to plant site, semi-finished inputs, machinery, tools, energy, as well as the labor services.

   K = FC + VC + LWC

   FC denotes all prearranged and invariable inputs of production like plant site, machinery, etc., **VC** denotes all the tangible and intangible inputs

ranging from raw materials, to semi-finished goods, energy, etc., varying along with the quantity of output, and **LWC** denotes the total wage cost of employees (**LWC=w*L**)[19].

Capital á la Classical School brings together the necessary inputs production, including the services of employee, with the specific purpose to make profit. By doing this, the capitalist takes the risk of loosing the whole or some of the capital outlaid. But all the inputs can only transmit value, which equals to the sum of all values of inputs exhausted. For instance, assume FC= 40 TL, VC= 30 TL and LWC= 20 TL, the value the output contains is 90 TL. There is no additional value produced by the capital, meaning that the capital defined á la Classical School is **NOT PRODUCTIVE**.

2. **Capital goods (KG)**: **KG,** or synonymously, the physical implements of production ranging from tools to advanced machinery are, in fact, nature's supplies transformed by labor services to increase the "value-adding ability of labor(er). Since the value of the **KGs** are given (known) in advance, they produce/add no value at all but only transmit the value already embodied in them. Their price embraces values transmitted during their production process plus profits. The sole purpose of the employment of **KGs** is to increase the productivity of laborer. Thus, **KGs** deserve compensation only to the extent of the value transmitted to final product. For example, if the value of a capital good is 100 TL and totally exhausted after one use, the contribution is worth just 100 TL. Nothing more,

[19] w = wage of employee and L=the number of employees.

nothing less. Anything exceeding the compensation for transmitted value is neither economically rational nor justifiable. Therefore, **KGs** are a **FoP** but not **PF**. In other words, **KGs** are **NOT PRODUCTIVE**.

The "capital-intensity" or rather the "technology-intensity" of production is another controversial concept, which refers to the degree of exploitation of technology embodied in the "capital-goods". The more advanced the technology, the more qualified employee is likely to be required to realize (to effect) production. In contrast, the less advanced technologies are likely to require relatively more number of employees with relatively less qualification. Therefore, it would be more appropriate to distinguish the production methods as "technology-intensive" and "employee-intensive" instead of "capital-intensive" versus "labor-intensive" as customary. The degree of technological progress does not, in any way, alter the position of ***KG;*** they still cannot transmit any more value to the final product than the value they possess (or depreciate). In other words, the variations in the degree of technological advancement embodied in the **KG** do not make them productive.

3. **Hoarded money or monetary capital**: A clear distinction exists between the "hoarded money" and "invested money" (Capital á la Classical School). A person can possess large sums of monetary funds, e.g., savings, but that does not make him an entrepreneur (a producer of goods/services) but just a money-holder. Such savings do not produce any value although they might grow by the amount of interest. Savings ca be associated with

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All incomes-expenditures are gross values, i.e., no taxes, unless otherwise stated.

value-generation only as "invested money" (Capital á la Classical School), that is if and when employed in production of exchange-values by combining the employee services and other inputs of production. In other words, although invested money (Capital á la Classical School) is an essential **FoP,** it is **NOT** a **PF**. In other words, the money capital is **NOT PRODUCTIVE**.

To sum up, the foregoing analysis indicates that, in spite of the Neoclassical doctrine and marginal productivity analysis, capital is not and cannot be **productive** but "**productively employed**" only.

Capital reconsidered

For the supply of goods and services with exchange values, the entrepreneur[20] has to combine certain inputs of production such as worker(s), production plant, energy, raw materials, semi-finished inputs, tools and machinery. In order to combine these inputs, the entrepreneur has to have access to **financial funds for investment** or, synonymously, to **financial capital** which is "a prerequisite" of production. Throughout this work, such funds required to finance the payments of assets necessary for the output of goods/services shall be called "**production capital**", or simply "**capital**", unless otherwise stated elsewhere. In other words, capital will be treated as the monetary and non-monetary resources employed in production to give effect to employee with the purpose to increase the value of original amount disposed, and will be denoted by the letter "**K**". It covers all production related expenses ranging from monetary-funds for daily transactions

to physical inputs like buildings, machinery, etc., as well as patent rights and labor services. In the absence of capital, a combination of physical inputs with the services of employee could not take place. In other words, production cannot be realized.

To put it differently, **K** is a factor of production, expressible in money, employed to combine the (un-) processed gifts of nature with the services of present employee and means of production, to supply goods and services in return of a reward (profit). **K** represents the stored-up values of inputs of production including labor services. As J.B. Clark pointed out, it is "expressible in money, but not embodied in money". When employed, it places the **factors of production** at the service of labor(er), **the only value-adding productive factor.** According to this definition, neither "hoarded" money (savings) nor the "idle" **KG** /buildings/land fit our definition of **K**, which designates "**values**", not quantities.

K = FC + VC + OC + W

FC = plant + machinery + tools + R&D

VC = raw materials + semi-finished inputs +energy +

OC = transaction costs arising during the production process

LWC = labor wage costs (wages * quantity of laborers)

The genesis of production capital

Above mentioned traditional definitions of capital seem to point out where and how the capital is used, but fail to reflect its origin. As shown elsewhere (Gürak,

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[20] Entrepreneur: person(s) who undertake risks of loosing some/all of investment capital in a competitive environment in the pursuit of making profits.

2000-a 2004-a and 2004-b), given the output of nature, the labor services are the generation of all value-added with its mental and physical faculties. The major role is played by the former, the mental labor services, which contribute to the growth of wealth[21] by improving the productivity of present labor(er) assisted by past-labor(er) embodied in the implements of production, i.e., transformed natural produce. Assume a barter-exchange economy consisting of two persons with no implements of production (no tools). And further assume that the mental labor produces a new technology, which introduces a primitive tool to increase the productivity of employee. That tool is a **capital-good**, a transformed (re-shaped) natural produce. Accordingly, all inputs of production, except for raw materials, are by labor(er) transformed natural produce. The past labor services, which transformed the original natural produce into physical inputs, are stored in the "**means of production**", i.e., "**capital goods and tools**", to assist the productivity level of "present" services of labor(er).

In short, the creative mental labor services are the spring of all **KG**, given the natural produce. And **K** is definitely "**a production factor**" but, in contrast to the common presentation in textbooks, definitely "**not a productive factor**" capable of producing / adding any value on its own.

Is capital a scarce factor of production?

Given the amount of globally available financial resources, it would be hardly logical to argue in favor of the scarcity of financial capital for new investment. A

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[21] Wealth: the sum of consumable physical and financial assets.

country may have a low degree of saving rate but global funds, especially in developed ones, can easily compensate this shortage.

Discussing the scarcity of **KG** seems more rational. But, given the amount of globally available financial funds, there should not be any problem to obtain the **KG** required, given the raw materials. There is no information that a firm failed to obtain the **KG** required, in the long run, on account of the shortages of the amount produced. In other words, there is no evidence indicating that **KG** is scarce because of quantitative limitations.

Given the unrestricted access to the technological knowledge, there is indeed something that is scarce and is the major impediment of economic growth; qualified labor force (or human capital) in sufficient quantity and quality. To obtain a more realistic picture, countries ought to be divided, analyzed and compared by the quality and quantity of labor force instead of labor-intensity or capital-intensity of production, given the proper cultural/institutional settings and access to knowledge on production (technology).

Other factors of production

So far we have studied three factors only, **N, L** and **K**. Yet, as mentioned before, there are many more factors (inputs) of production, especially in products with advanced technology such as airplanes and computers. The critical question is; are there other factors of production, which are, **productive** just like **N** and **L** capable of producing/adding value?

The answer is a very short, clear and definitive **NO**.

There are "no" other **productive factors** other than **N** and **L** capable of producing or adding value. All "other" inputs are the products of nature transformed (re-shaped) by the human labor services. They all **transmit value** to the product to the extent of exhausted value during the process of production and that is all. If, say, 10 TL worth of steel is used, then the value transmitted to the new product is just 10 TL, nothing more and nothing less.

Human capital: labor(er) or capital?

According to the jargon used by many economists, like T. Schultz, G. Becker, R. Solow, R. Lucas, P. Romer, G. Mankiw and many others, there is, in addition to the factor capital in conventional sense, another capital concept vital and fundamental for production; "**the human capital**", designated by the letter **H**. It simply refers to the abilities and capabilities of the laborer acquired through education and experience.

Lucas (1988), assigns **H** the role of "**the sole source of all economic growth**". For Romer (1990), it is the source of all new technological innovations, thus of increasing returns and incessant long-run growth. The so-called **K**-models refer to both, the "orthodox" meaning of the term "capital" as well as the "human capital".
What is human-capital? What is the difference between conventional meaning of capital and human capital?

Human capital simply refers to the mental faculties of labor(er) acquired through education and experience. It comprises the skills, abilities and learning-by-doing experience of the labor(er). In other words, it designates the mental qualities of the services of labor(er), excluding simple eye-hand coordination. It does not make reference to the labor(er) itself but to the quality of faculties executed by the labor(er). It is: "**The skills, capacities, abilities possessed by an individual**, **which facilitates him/her to earn income**."[22]

What **H**, generally, represent in economic models are;

1- official school years attended; or

2- learning-by-doing; or, occasionally

3- both.

However, there are two additional and extremely important factors influencing the emergence of human capital; these are;

4- experience; and

5- unofficial schooling (learning) from socio-economic environment.

H is, normally, acquired and advanced through formal/informal education and flavored by experience, given the natural skills. It is utilized as abilities of human mind are exerted, i.e., the mental / intellectual labor including talent and experience.

Human capital and labor(er) without mental faculties

The concept human capital refers to the "mental faculties" of the labor(er), or, alternatively, to the **skills of labor(er)**, simply to the variations in degrees of abilities of different laborers. It does **not** refer to the "**skilled labor(er)**" itself. The critical question is; is there any labor(er) at all without some degree of human capital? To put it differently, is there any part or whole of the labor force, which comprise physical labor(-ers) capable of eye and hand coordination, only?

The answer to this question was given above in the part regarding the labor. The same answer is valid; NO. There is no labor(er) in any part of the world with eye

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[22] The Penguin Dictionary of Economics

and hand coordination ability, only. By the way, even this simple coordination requires some degree of human capital, for each movement of muscles receive the order directly from brain, the command center of all mental activities.

Yet, the orthodox, especially the Neoclassical, economic textbooks and models generally refer to two factors of production one of which is the labor denoted by the letter **L**. Given the concept of human capital, one is automatically inclined to think that **L** designates the labor(er) with no human capital. Given the definitions of mental labor and human capital, would it be rational and scientific to claim that the two are "different" concepts with different features and contributions?

If human capital is the skill capacity of employee to labor, why, then, is the term associated with capital not employee, such as **mental labor**? Is the choice of second word, capital, instead of labor(er), merely a coincidence? Is there any difference between the "qualities of mental labor(er)" and "human capital", except in ideology? Or is the difference ideological?

The reason seems to be ideological rather than scientific. Any association with labor could jeopardize the century long struggle since the rise of Marginalism to survive Marxist revolutionary ideological attacks on the capitalist system. Changing the expression from "Human capital is the major determinant of economic growth." to "Mental labor is the major determinant of economic growth." would produce different implications. As a result, the virtual world of Neoclassical parable would encounter serious problems and loose ground.

Income[23]

According to the analysis in previous parts, there are only "two" **PFs** capable of producing/adding value on their own and thousands of **FoP** used in the supply of useful goods and services as mere inputs. **FoP** add to the value of products only as much as they transmit. For instance, if 10 TL worth energy is used, the amount of value transmitted by energy to the final value of product is 10 TL, no less, no more. The same applies for all **FoP** including the **KG**. Assume that the following values apply for one unit production of good **X**;

LWC = 150 TL (**L*w**)

KG = 100 TL; depreciate totally after one use only.

VC = 200 TL (energy, semi-finished goods, etc.)

TC = 450 TL.

$\mathbf{P^X}$ = 500 TL (=**TR**)

π = 50 TL (**TR** – **TC**)

The amount of value transmitted by the inputs of production is 450 TL, but the product is sold for 500 TL. The value-added or the income generated, with the supply of product **X** is 200 TL.

VA = **LWC** + π = 150+50 = 200 TL

How is this income to be distributed?

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[23] Initial income and wealth distribution before any production takes place and income distributed has always been one of the most vividly discussed fields of economics. Income and wealth is unequally distributed and this initial position is rather important for the ensuing economic transactions and consequences. These matters will be ignored simply because the system is assumed exogenously given, for our aim is to analyze the "functional" income distribution in this given environment.

In our sample, the distribution is self-evident; 75 percent (150 TL) goes to the labor(er) as wages and 25 percent (50 TL) goes to the entrepreneur (the capitalist) as profit. But in reality, there are more than two income-receiving groups. Although it is not mentioned in the sample above, some share of the **VA** (income generated) accrues to other groups in economy as **interest** and **rent**.

Below, before going into income distribution analysis, an attempt will be made to describe the types of incomes received and the nature of the incomes. Incomes will be categorized in terms of whether they are "**earned",** as reward on **productive economic activities** generating value, **or "unearned",** as return on **unproductive economic activities**. The analysis will help us to see whether the income obtained is economically rational.

Types of income

There are four types of income; **wage, profit, interest and rent**. First, we shall attempt to analyze the nature of income obtained categorized as **earned** versus **unearned**.

The "productive" factors and income distribution

There were only two "productive" factors of production, nature (**N**) and labor (**L**). The latter, **L**, will be dealt with below under the subtitle "wages – earned income". Therefore, the focus in this part will be only on the other productive factor, the original and initial supplier, or the genesis, of all products, the nature.

N is, beyond any doubt, the genesis, the spring of all commodities and the "other" productive factor. But as such, the nature herself does not receive any part of the income (**VA**) generated in return of her generous supplies used as inputs, for she is not an entity with economic interests like the other productive factor, the human beings. In the sense of economic transactions, she provides "**use-values**", only. All she requires is adequate care and feedback in order to continue her sustained fertility (productivity).

Wages - "earned income"

The owners of labor services, e.g., labor(ers), **earn** wages for the contribution, as a "**productive**" factor of production. The verb "earn" implies that the factor makes a distinctive contribution to the generation of value as a productive factor. To put it differently, the laborer embodies certain abilities and skills enriched by training/education, which shapes the capacity to labor. As a result of setting this capacity to perform a specific task, some value is generated. In return, the laborer earns a living by hiring his/her labor-time for a price commonly referred to as wage. The value generated by labor(er) is either used for personal use (designating use-value) or exchanged for other products (designating exchange-value).

Since the issue of how wages of labor services are affected by improvements in technology in the long run was discussed elsewhere (Gürak; 2004-b), we will suffice to indicate that the nominal wage rate is determined after individual or aggregate negotiations with employer(s).

Profits: – "earned" or "unearned" income?

Profit motive is the long-run driving force inducing the entrepreneurs to engage in the supply of products ranging from basic items to conveniences of life to high-tech commodities and services. Therefore, the rational objective of any enterprise is to generate the maximum possible profits. In case of declining profits, survival of the enterprise would be jeopardized. In the short run, the enterprise may pursue other temporary objectives than profit maximization such as acquiring a targeted market share, keeping the shareholders satisfied, maintaining the status quo or reaching a sale target. But, there is always only one motive in the longer-run, profit maximization.

In the pursuit of the profit maximization, the enterprise makes some direct and indirect contributions to the community such as generating funds for taxation, new jobs, promoting economic growth and improving the living standards. But, all these useful contributions of the enterprise are the byproducts of profit maximization motive. An entrepreneur does not set up an enterprise with the purpose to generate employment or to pay taxes or to develop a region / community. Without the profit motive, the enterprise would loose its jugular and cease to exist.

In spite of its crucial importance for the system, there seems to be no consensus on the nature and origin of profit, just as it was the case in the

definition of "capital". During the early stages of capitalism, the Classical economists were unable to draw a distinct line between the profits and interest. According to Schumpeter, Adam Smith might be credited with two different theories and Ricardo with three or even four; 1- abstinence, 2- residual, 3- entrepreneurship and 4- unpaid-labor. But, Ricardo said; **"it is more realistic to say that they had no definite theory at all."** (Schumpeter, 1954: p.648).

More than a century ago, James Mill (1821) and McCulloch (1825) had treated profits as **the wages of accumulated labor**. Capital goods were treated as "accumulated or hoarded labor", thus going on "earning" wages, e.g., profit. Analogously, the maturing wine in the cellar was pointed out as earning wages (profits) for the owner as the time goes on. According to this approach; "... **capital goods are the result of saving"** and; **"any net yield of these capital goods is in the nature of a payment for the service rendered by saving"** (Schumpeter, 1954: p.659). For Cassel, profit was the price of capital disposed.

For Marx, profit meant simply the surplus value, e.g., the unpaid labor. According to the unpaid labor version, the labor services were employed; say for 10 hours per day, but received wages for only 8 hours. The difference worth two hours' wages was unpaid labor time accruing to capitalists as profits. That difference also indicated the exploitation of laborers by the capitalist, according to Marx.

The abstinence theory treated profit as the return on the service rendered by saving, e.g., the price of saving. Abstaining, i.e., postponing present consumption implies some **risk** that the postponed consumption may never be realized in future. If there is indeed a postponement of present pleasure in expectation of more future pleasure, as in the case of "atomized" and "unsaturated" small investors, the argument might be justified. But, in case of the "saturated"

entrepreneurs in terms of consumption, the abstinence argument would loose whole ground. It would be hardly reasonable to argue that Rockefeller, DuPont or Sabanci family members are actually postponing their present pleasure when they invest. Why should there be a profit reward if there is, in fact, no sacrifice or postponement of present consumption? After all, abstinence does not generate or transmit any value to products.

According to Schumpeter, profit was the price of potential capital while it meant, for Keynes, the price of not hoarding inducing the capitalists not to keep liquid funds, e.g., savings. For a businessman, profit is the difference between total revenue and total costs, including the payments for employees, R&D costs, capital goods, raw materials, etc.

The dominating Neoclassical doctrine does not offer a satisfactory theory, either. It tells us that profit is the return of marginal productivity of capital but there is no universally acceptable definition of capital even among its proponents.

Profit and the risk factor

Given the costs of production, the price paid by end-users for products normally exceeds the total value transmitted by the inputs of production. The difference between total revenue and total costs is the "**profit**" (π) paid to entrepreneur for the "**risk**" assumed. Risk can be defined as the probability of obtaining less than the value of capital employed in production. It involves the partial or total loss of the savings employed for the output of commercial products. There can be several reasons for the appearance of risk.

1. Miscalculation of market response (insufficient demand).

2. Unanticipated economic obstacles (customs duties, tax rates, crises).
3. Unanticipated non-economic obstacles (political instability, war, etc.).
4. Unanticipated inflation.
5. Competitors' behavior (price-battle, new products, etc.).
6. Management errors (wrong decisions).

The risk factor does not transmit any value to the product itself, i.e., it does not generate any value itself. But the profit as return on risk for employed savings is a necessary prerequisite for the efficient operation of the system. In other words, profit is the return on total investment capital to undertake production process, subject to risks. Thus, profit arises as a result of the economic activity to supply useful products.

Assume an economy consisting of two individuals; **X** and **Y**. In time, individual-**X** saves some of his/her weekly income, say 20 TL, instead of consuming it immediately. After a time-span of, say five weeks, he/she would accumulate savings worth 100 TL. Assume that individual-**X** uses the savings to combine hired labor services with other inputs of production (invests) to supply a commodity. Given demand, the new investment by individual-**X** would increase the total output, thus the total wealth while, probably, generating employment for additional manpower. The individual-**X** makes a clear contribution by taking the **risk** of loosing some or all of her accumulated savings and thus "**earns**" an income, i.e., profit. It would be not only economically rational and justified but also necessary for the promotion of further investments. In the absence of profit as reward, there would be no incentives to invest. In short, **the profit is paid for the risks assumed**.

A distinctive feature of profit

There is a rather distinctive and controversial feature of profit.

Profit is not some value generated by the entrepreneur. It is a value transfer from end-users to capital owners in excess of the total value transmitted by inputs of production. In other words, it is a transfer of purchasing power from the buyer to seller in excess of the cost of production, which is given by the pre-determined values of inputs, including wages. The amount of purchasing power transferred is shaped by the supply-demand conditions and competition.

Interest - "unearned" income

Throughout history, interest, e.g., income as return on money loaned, has always been a frequently discussed and controversial subject of economic transactions. There was time when interest was forbidden by religion as well as civil law in developed countries. Today interest is still outlawed and considered as a great sin in Islamic republics. Yet, in spite of all unfavorable, many times hostile, attitudes, interest has been able to survive all challenges. Nowadays, billions of dollars circulate in financial markets around the world to make the best use of financial system to bread money by money transactions.

The fact that enormous amounts of money savings obtain income in the form of interest does not make it immune from criticism and questioning the role of interest in the functioning of economic system. As shall be seen below, the interest mechanism as it functions today, is to large extent, to the detriment of efficient functioning of economies and against the general interests both producers and consumers.

Monetary savings can:

1- **Earn** income (profits) if **productively employed** (invested) to produce goods and services, which was called **capital**.
2- **Receive** income (interest) if engaged in directly "**unproductive**" assets, such as banking deposits, bonds, obligations.
3- **Display** status, prestige and wealth if spent (**unproductively**) on items like jewelry and art objects.
4- **Remain idle** (**unproductive**), under the pillow or home safe.

We have already discussed the first item, capital, above. What we are interested in is, at present, the second item, **interest** on savings not employed as capital, e.g., income on **unproductive** economic activity. Before proceeding further, it is necessary to draw a distinct line between **productively employed** savings and **unproductively employed** savings.

In contemporary economies, savings (financial assets) not employed as capital, i.e., savings not productively employed to produce goods and/or services, often appear in the form of assets like bank deposits, obligations or bonds. As distinct from capital, the productively employed savings, such assets do not make any direct contribution to income generation, at least not directly. Interest is an income arising from mere ownership of savings. Such funds, not directly involved in the supply of products, abstain from assuming the related risks of supplying products. Yet, nevertheless, they provide an income to the owner by increasing the original amount of savings.

Since no supply of goods or services is involved, a line separating it from the productive employment of savings is not only proper but also necessary. This is why such savings are referred to as unproductively engaged capital and the

return on it, i.e., **interest** as "**unearned**" income. The risk the money owner takes is more of a speculative kind as common in financial markets or the risk of high inflation wiping out or reducing the real rate of return or bankruptcy of the borrower.

The discussion of interest will be taken up from two different angles;

1. the individuals obtaining income in the form of interest; and
2. the financial institutions (**FIs**), including banks, obtaining income as return of the services supplied by labor efforts subject to competitive risks.

In the first case, interest, or return on money (savings), is a kind of income obtained without any labor effort or competitive struggle to produce exchange-values. Since there is no genuine sacrificed to produce, the return on savings as interest is classified as "**unearned**" income.

The role of the **FI**s is rather different, though their income is also called interest, which is, in fact, the profits of enterprise. Therefore, the income of the **FI**s is regarded as "**earned**" income. Of course, the **FI**s are expected to assume somewhat different roles in economic transactions and provide somewhat different services.

1-Interest on money savings of individuals

The general distinguishing characteristics of interest obtained by the money holders are:

1. It is a "predetermined" rate, independent of production.
2. It has no relation to supply of products, at least not directly.
3. Money produces more money.

Since money holdings as such are not capable of adding/generating any value the critical question, from the point of income obtained by individual money holders, is:

Is interest economically rational, in the sense that **whether it does contribute to increased prosperity or constitute a barrier retarding economic progress and increased prosperity?**

Interest on savings (deposits)

Unlike entrepreneurs' risks, the risks assumed by the depositors are of different nature. Interest paid on deposits is not a reward for **productive employment** and associated **risks**, or for any labor effort.

Paying interest on loans for investment by **FIs** was regarded as "earned" for the services provided and risks assumed. Paying interest to the holders of savings at **FIs** is an entirely different matter. One can, of course, always argue that the savings of depositors facilitate the **FIs** to provide the loans for **productive employment**, thus deserving a reward as well. After all, the unproductive savings supply the funds to be **transformed into productive savings** satisfying the needs and wants of human beings. In the absence of such funds, less **productive employment** of savings would take place due to shortage of funds, the may argue.

It is true that the savings indirectly provide the necessary financial resources as loans for **productive employment**. But it is not the money holders who assume the risks of **productive employment**, but the **FIs.** There are only three kinds of risks they face.

a) inflation;
b) devaluation of local currency; and

c) bankruptcy of **FI**.

First and second ones imply that savings are subject to loosing the initial purchasing power. But the **FIs** do not control nor determine inflation or depreciation, and therefore not liable for any compensation of the losses arising. The third risk is the bankruptcy of **FIs**. That risk is not greater than the risk of keeping money at home or work in a safe box. In fact, the money holders ought to pay the **FIs** for keeping their money safe, as they once did. In our time, the **FIs** do not only keep their money safe, but also facilitates many contemporary economic transactions at no or a very low cost, such as paying regular bills, money transfer, currency exchange, etc. All these services by the **FIs** make them more eligible for the services provided, instead of paying interest on **"unproductive"** deposits.

Rewarding the hoarded savings by allowing money to breed more money as interest is both, economically irrational and morally unjustified, and leads to the misallocation of incomes and resources. The hoarded money as such is infertile, and contains neither any labor effort nor subject to any competitive risks. Therefore, interest on deposits is **unearned** income.

2-Interest on loans by FIs (enterprise profits)

Interest on loans for investment

Investment is a necessary and crucial activity for any economy. It can be widening in nature with given technology, thus increasing employment and total output, thus total wealth. Or, it can be in new product/process technologies, thus sustaining long-run economic growth and prosperity increase. Some investments

require relatively low amount of capital to initiate production. But some, especially the modern and high technology using production requires large, even huge sums of capital, i.e., savings productively employed. Regardless of the scale of production, the entrepreneur may require "external" financial funds to finance the investment. In other words, the capital of the "potential" investor may be insufficient to initiate production. The lacking part of capital may come from people with savings and willingness to share the risks, which make them co-partners. But it is not always easy to find so called risk capital. There may be entrepreneurs short of capital, on one side, and financial savings accumulated for some reasons, but not interested in risky investments. Financial institutions (**FIs**) may fill in the gap and while preserving the savings of some people in safe, they may loan money for investment to entrepreneurs. What the **FIs** do is to transfer the "unproductive" savings to investors for "**productive**" employment. By doing this, the **FIs** assume risks of loan default but the savings become productive. In return, the transaction by the **FI** deserves a reward, which is the interest on loan. In this case, the interest is economically rational and morally justified, as the **FI**'s transaction contributes to prosperity. Thus, the income obtained by **FI** is "**earned**".

Policies promoting/encouraging incomes from **productive employment** and discouraging incomes from **unproductive employment** would be at the benefit of all, the producers as well as consumers, the individuals as well as nations. Rational economic choice would favor the promotion of **productive employment** and ensuing rewards of savings.

Utilizing unproductive savings: A hypothetical case

Assume an economic system where all kinds of interest on **unproductive** savings and/or loans are forbidden by law, cet. par. What would be the likely economic implications? Would this new situation lead to diminished amount of investments caused by the shortage of investable funds? Would the future economic progress and prosperity be at stake?

The answer is negative. On the contrary, quite opposite would be true.

As rational economic agents, normally, show a tendency to increase and maximize the personal gain by seeking economically most profitable areas for their savings, there would be three options left, in the absence of present financial system:

1- Undertaking productive economic transactions, i.e., supplying goods and services; or
2- Investing indirectly by acquiring shares in firms undertaking productive economic transactions; or
3- Keeping the savings idle without any return.

In the first two cases, the money holder(s) would be subject to competitive risks, employ labor(er) and probably abstain or postpone the enjoyment of present consumption. As a result, not only the individuals but also the aggregate economy would benefit. If the third option is preferred, say for precaution or to avoid risks, then the money holder would be not only be abstaining/postponing the enjoyment of present consumption but also assume the risk(s) of diminishing purchasing value of savings in case of inflation or currency devaluation. A rational economic behavior would be the preference of one of the first two options.

As the unproductive savings are encouraged to be placed at the disposal of productive investors in this new proposed system, the accruing return on such loans would be economically rational and qualified as **earned**.

Introduction of such a system does not require the abolishment of present financial system entirely but only a restructuring with no or just enough interest rate to protect the savings against inflation. The principle task of the financial system ought to be channeling the savings into **productive** employment areas in accordance with the benefits and desires of money holders.

Interest on loan for consumption provided by FIs

Providing consumer credits is one of the widespread transactions of present financial system. Such loans, if rationally used, often make a positive impact on the output of goods and services by increasing the current level of effective demand, which implies not only growth and increased wealth but also more employment. There may be several reasons for seeking loans ranging from meeting urgent basic demands to satisfaction of personal desires. The latter, i.e., present enjoyment of a desired product, which, otherwise, may have to be postponed to a future date, seems to be the major reason of most loans. For instance, having a "new" car or a "new" house would be expected to give more satisfaction now, than in the future. And in return of this satisfaction, the credit user would be willing and prepared to pay some interest.

If both sides, the credit supplier and the credit user, were satisfied with the transaction, than the credit system and the ensuing interest within the justifiable limits would not be damaging the macroeconomic system. In fact, it

would promote it. Under the circumstances, the loan transaction seems both rational and beneficial. The interest paid by credit user is optional. There is some labor effort by the **FI** during after the realization of loan and the transaction is subject to "risk" in case of default on re-payment. The interest obtained by the **FI** is **earned**.

In certain cases, the individual or family may be in need of loan in order to meet some urgent and "basic" needs, say for health reasons or to repair the leaking roof. If family income and "precautionary family funds" were not enough to meet such unanticipated expenditure, the need for loan would be inevitable.
Would it be economically rational and morally justifiable to charge interest on loans for such unanticipated incidences, though the return may seem **earned?**

The first-best "economic" solution under such circumstances would probably be access to insurance and/or personal precautionary funds to overcome the difficulties. In the absence of such facilities, the second-best solution would be the support from a social-state organ or a non-government organization, as frequently seen in the contemporary nations. The need arises because of inadequacy of income to meet the basic needs and charging interest under the circumstances would be usury. Technically, the interest may be regarded as "earned" but it would not be morally justifiable.

Interest on state/company debt assets

State bonds/securities: It is, unfortunately, a global fact that practically all countries, developed or developing, have public debts sometimes exceeding the GDP debtor nations. This situation, in some cases, due to mismanagement of the economy caused by excessive and extravagant spending of public resources and

sometimes due to external events such as reduced demand for exports, inevitably distorts macroeconomic performance and financial balances. As a result, the state budget requires additional financial resources to keep up with the programmed performance and to sustain macroeconomic stability. Governments normally face with two options, under the circumstances; either a)printing money or b) borrowing.

Printing money seems to be an obsolete method not advised by financial experts and institutions such as IMF. The second option, borrowing, has become a more common method, which is not without shortcomings, either. The extent and nature of the borrowing can, often does, become a burden to the detriment of fiscal performance and development. For instance, the size of short-term loans and rather high interest rates display a heavy burden for Turkish budget and economic performance in 2004.

The rate of interest on loans borrowed varies from country to country depending on the economic credibility of nations, but generally higher for developing countries (**LDCs**). The fiscal deficits financed by borrowing often retard the development efforts of **LDCs**. It is an established fact, unfortunately, that the interest incomes often seem to provide higher returns (unearned incomes) than profits (earned income), especially in countries with severe financial problems, as in Turkey between 2000-2003. Real interest rate on internal debt in 2004 is still as high as about 15 percent.

The best policy for the governments seems to be aiming a "balanced budget" without any fiscal deficits, thus avoiding public debts,. Though highly desirable, balancing state revenues and expenditures cannot always be attained and unanticipated fiscal deficits may arise. In spite of all measures and goodwill, the

countries may end up in a situation, which inevitably compels the governments to borrow to finance the deficit.

The first-best remedy seems to be taking some precautionary measures to overcome unanticipated fiscal deficits, such as setting aside some funds to be used in need. Such precautionary reserves would provide not only funds for readjustment process to new situation with fiscal problems but also provide time to decision-makers to take the necessary steps. However, the global data indicates that the world economy is far away from keeping and maintaining such reserves.

The second-best policy, in case of unanticipated fiscal problems without reserves, seems to be borrowing. Probably all countries around the world have public debts, which inevitably leads to accompanying fiscal and other constraints, as we observe almost in every corner around the world. The constraints arising from debt burden are, in most cases, to the detriment of development efforts, especially in **LDCs**. Even the interest rate on loans of international organizations like IMF are often quite above the international market rates, although the officially declared aim is to help the nations in need.

In theory, the loans to states (governments) to finance deficits are subject to risks of deference and bankruptcy. In case of nations, the latter, bankruptcy, is practically out of the question. A nation does not go bankrupt. However deference on repayment of loans and/or interest is not a rare case. The lenders would naturally expect some reward, e.g., interest, to provide the required finances. But, the income as interest on such loans would not escape to be classified as **unearned**, from the point of view of individual money holders, since there is no productive employment of the savings nor any labor effort involved

by them. Since there is some risk of deference involved, in case of financial institutions, and some labor efforts expended, interest on loan may be defined as "profit" of enterprise and classified as **earned**.

Company bonds/securities:

To set up a new plant to produce utilities, an enterprise might be short of the required financial funds (capital) and borrow money from **FI**s. The interest for such loans was defined as **earned** income, or profits of the financial enterprise as risks and labor effort was involved. However, an enterprise might sometimes acquire some external funds either by borrowing from **FI**s or by exporting debt assets in form of short-term obligations or long-term bonds.

In both cases the enterprise has to pay interest on loan. And in both cases, the interest obtained by the **FI** is **earned** income as some risks and labor effort are involved. From the point of view of money holders (deposit owners), it is **unearned** income since there is neither competitive risks nor any labor effort is involved by them.

Instead of borrowing money and paying interest, enterprise could prefer to sell shares. But this would imply diminishing percentage of shares controlled by the entrepreneur, which would imply diminishing power to control and manage the enterprise. Therefore, the entrepreneur would be reluctant to sell shares and loose power. Besides, the external capital costs, e.g., interest paid, are normally tax-deductible, which might make borrowing more profitable in the medium and long-term, depending on the generosity of tax-system and the "skills" of accountants/ financial advisors.

Regarding the **unearned** incomes of individual money holders at **FI**s, one can argue that **FI** would quite likely not have enough own resources to meet the demand for loans in the absence of deposits of individual money holders. Since the activities of **FI**s are classified as productive and the income as **earned,** transferring some of the income to depositors as interest is necessary for the efficient functioning of the system. And therefore, the incomes obtained by the money holders as interest ought to be classified as **earned**.

The answer is; not really. The choices for the individual money holder were:

1. Spending the money, which would increase total consumption, employment and output, i.e., **GDP**.
2. Investing the money in productive employment, which would increase total output and competition, i.e., **GDP**.
3. Keeping the money "idle" at home or a **FI**, which would be rather irrational given the individual is rational.

A final concise remark on interest and the efficient functioning of the system: **Any rational economic system with rational economic agents should not reward unproductive savings. On the contrary, a rational system ought to implement measures rewarding productive employment of savings, thus promoting long-term economic prosperity of people. The present system as such contributes to the misallocation of resources and to rewarding the "unproductive" savings.**

Rent: "unearned income"

Rent is another kind of income subject to everlasting moral as well as economic arguments. It is an income **"not obtained by labor efforts but by appropriation"**, only. How the property came into possession of the owner in the first place is a rather important matter from the point of income distribution, but beyond the scope of this work. Three kinds of rent will be analyzed below.

1. One kind of rent is related to the "excessive" profits above the market average arising from **market imperfections** such as macro-economic policies, black-markets, cartels, oligopoly, monopoly. End-users have to pay higher than normal prices, which increase the profits without any additional costs. Since this type income does not involve any labor effort or competitive risks, it is categorized as "**unearned**" income.

2. Another kind of rent is related to the ownership of land. The owner may obtain income from letting out the land in possession to be toiled by labor efforts of "others". Income accruing may be in the form an annual rent or as a percentage of total monetary income, or as a share of the harvest (crop-sharing). There is no labor effort involved by neither the landowner

nor any competitive risks assumed. The income arises merely as a result of appropriation and therefore, income is "**unearned**".

3. A third kind of rent arises as a result of Ricardian style differences in land productivities of different natural qualities. The income is, again, subject to no labor effort or any competitive risks, thus it is "**unearned**".

The term rent has another common usage in economic transactions with different implications. Assume a person/firm who owns a building or machinery or car, except land, which is requested by some end-users either for personal satisfaction or for economic transactions. Investing personal financial funds on such man-made products with the purpose to make profits by renting/leasing them requires competitive risks. The owner faces the risk of loosing the initial value of assets at the end of rental period. There is no labor effort in the transaction but some competitive risks in the production of utilities. Therefore the nature of income is more like "profit", e.g., "**earned**" rather than "rent", e.g., "**unearned**".

Functional income distribution

Unequal distribution of income has always been one of the major problem areas and often a cause of embarrassment for both economic science and economists. The Classical economic analysis used to emphasize functional income distribution among three classes, workers, capitalists and landowners. "Modern" economic textbooks of Neoclassical heritage analyze functional income distribution in terms of "payments to two factors of production", e.g. capital and labor, in accordance with their "marginal productivities". The contemporary researchers

on income distribution seem to place more emphasis on individual, group and/or cross-country income distribution analysis, rather than functional distribution.

As we have seen, the income to be distributed is generated by the **productive employment** of resources to meet the needs and desires of end-users. There were quite a number of **production factors** but only two **productive factors**, nature and labor. The types of incomes and the income receiving factors, on the other hand, were more than two:

1. Labor **earning** wage;
2. Capital (savings productively employed) **earning** profit;
3. Money holders (savings unproductively employed) **receiving** interest; and
4. Owners of land **receiving** rent.

The interest of this study is the functional income distribution among two classes, capitalists and labor(ers). There are two reasons for considering the incomes of the first two groups only. First of all, the income or value-added is generated by the first two, labor services and productively employed capital. The second reason is that the costs of interest and rent are, normally, included in the production costs met by the capital. As profit, interest and rent have a common characteristic as "ownership" of "other" resources than the labor services, which is the "only" factor with value-adding ability, income analysis among two groups seemed rather rational and logical.

1. Income of value-adding labor services: and
2. Income of appropriators of resources.

Functional income distribution with "given" technology

Assume that the following hypothetical figures represent the initial production relations in a closed economy with "given" technology and no government interference. **w** denotes wages, **TC** cost of production, **TR** total revenue, π profits, **r** rate of profit and **LWC** total wage cost:

w = 100 TL

L = 500

p = 15 TL

q = 10,000 pieces

LWC = **w** * **L** = 100 *500 = 50,000 TL

OC = **FC** + **VC** = 80,000 TL

TC = **LWC** +***OC*** = 130,000 TL

TR = 15 * 10,000 = 150,000 TL

$\pi = TR_t - TC_t$ = 20,000 TL

r = π / **TC** = ~ **% 15**

VA = π + **LWC** = 20,000+50,000 = 70,000 TL

Distribution of hypothetical income:

π /VA = **~ % 28.5** **share of profits**

LWC /VA = **~ % 71.4** **share of labor**

Wage rise and income distribution

The only way to alter the present income distribution would be a wage rise reducing profit's share while increasing that of labor, which demonstrates that the interests of the income sharing groups are in the opposite direction. To the

extent the labor succeeds in wage rise with given income, there will be an improvement in labor's share at the expense of capital-owners.

Assume that there is a wage rise by 20 percent, cet. par.

Δw = 20 TL

And the new wage would be;

w_{t+1} = 120 TL

As a result, both the labor wage costs as well as total costs will increase.

$LWC_{t+1} = w_{t+1} * L_{t+1}$ = 120 *500 = 60,000 TL

$TC_{t+1} = LWC_{t+1} + OC_{t+1}$ = 140,000 TL

The change in costs would change all other outcomes.

$\pi_{t+1} = TR_{t+1} - TC_{t+1}$ = 10,000 TL

$r_{t+1} = \pi_{t+1} / TC_{t+1}$ = **~ % 7**

$VA_{t+1} = \pi_{t+1} + LWC_{t+1}$ = 10,000+60,000 = **70,000 TL**

New distribution of income would clearly improve labor's share:

π_{t+1} / VA_{t+1} = **~ % 14** **share of profits**

LWC_{t+1} / VA_{t+1} = **~ % 85** **share of labor**

Although the total income (**VA**) has not changed (70,000 TL), the share of profits fell from 28.5 percent to about 14 percent, while that of wages increased from 71.4 percent to about 85 percent.

Functional income distribution with "technological progress"

An important aspect related to mental labor services would be the concept of technological progress, the incessant source of additional income generation. Technology can be defined, in a narrow sense of meaning, as the "knowledge" materialized in commodities, which is in fact a product of the mental labor services, e.g. human capital (Gürak, 2004-b).

There are two major reasons for investing in "new" technology:

1. Not to lag behind competitors, in fact, go ahead if possible; and
2. To maximize the long-run profits.

And there are two types of technological change:

1-New production method for given product.

2- New products / new production methods.

Let us analyze how technological progress affects income distribution.

New production method for given product: In order to survive in the long run in a competitive environment, the firms have no choice but search for "new production methods" of "given" products, to reduce per unit production costs. Assume that among the initial economic figures only the quantity has changed as a result of new technology increasing from 10,000 to 12,000 pieces, a rise by 20 percent.

w = 100 TL

L = 500

p = 15 TL

q = 12,000 pieces **eq.** = 2,000 pieces

LWC = **w** * **L** = 100 *500 = 50,000 TL

OC = **FC** + **VC** = 80,000 TL

TC = **LWC** +***OC*** = 130,000 TL

TR = 15 * 12,000 = 180,000 TL

π = TR_t - TC_t = 180,000 – 130,000 = 50,000 TL

r = π / **TC** = ~ **% 38**

VA = π + **LWC** = 50,000+50,000 = 100,000 TL

As a result of technological change, the total income generated increased by 30,000 TL to 100,000 and the distribution of income changed in favor of the capital-owner, even though the real wage and total labor income has not changed:

π /**VA** =	**% 50**	**share of profits**
LWC /VA =	**% 50**	**share of labor**

New products / new production methods: Introducing "new" technologies to produce "new" products usually accompanied by "new" production methods imply new and higher profit opportunities than the average; at least this is the expectation behind introducing new technologies. If the "expected" profit rate were not higher than the average, there would be insufficient incentive to introduce "new products". But, in general, new products imply a larger income with new and higher profit opportunities and probably large share for capital owners from the total income, until the next round of wage rise negotiations, of course.

Should all income benefits of "new" technology accrue to profits, only? Who are entitled to the accruing benefits of the productive knowledge (technologies) originating from the mental labor services based on thousands of years of accumulation and improvements?

The inventor(s)? The enterprise? The mankind? Or, all together?

To the extent an enterprise finances the invention and/or innovation of a new technology, thus assuming related risks; it is economically rational and morally justified to reap, at least, some of the accruing benefits as profits. But, some of the benefits should belong to the inventor(s), who produce the new technology, some to the community in which the inputs like education, infrastructure, etc., are provided as well as to the mankind, which provided the common "infrastructure and environment" shaped by thousands of years. Restructuring the "ownership rights on intellectual property" facilitating easier access to productive knowledge by less developed country firms and eliminating technology market imperfections can make the world a better place to live in.

Long-run wage increase and income distribution

As seen above, given the wage rate in short-run, technological innovations, normally, tend to increase the rate of profits and the share of profits in total income. Therefore, all rational firms constantly aspire to employ more productive technologies partly to survive competition and partly to realize maximum possible profits in the long run. Assuming optimum micro-productivity (efficient employment of all resources including labor services) every cost reducing

productivity growth resulting from "new" production method[24] would deteriorate the allocation of income for labor with "given" wages, just like in the short run. Technological innovation would affect the incomes of factors as flows:

$$w_{t+1} = w_t$$

but;

$$VA_{t+1} > VA_t$$

$$r_{t+1} > r_t$$

$$\pi_{t+1} > \pi_t$$

$$\pi_{t+1} / VA_{t+1} > \pi_t / VA_t \qquad \textbf{change in capital's share of income}$$

$$w_{t+1} / VA_{t+1} < w_t / VA_t \qquad \textbf{change in labor's share of income}$$

The "new" technology generates more income but also shifts relative shares of income, which deteriorates for employees and improves for capital-owners. It is important to note that there is no change in the real wages. To put it differently, the "new" technology makes the capital-owners richer while the position of employees' remains unchanged with "given" wages.

The labor responses to this new situation by demanding wage rise in the next round of negotiations with capital owners, just like their response with "given" technology in the short-run, as demonstrated above. The outcome depends partly on the economic conditions prevailing and partly on the abilities and strength of negotiating parties.

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[24] The type of new technology assumed refers to a "new" production method of a "given" product.

Concluding remarks

As demonstrated in this study, **production factors** and **productive factors** are not the same thing. There are only two **productive factors** but many more **production factors**.

Income is generated and/or increased by the **productive** employment of savings combining the inputs of production, including labor services, to meet the wants and needs of end-users in return of profits. Labor(er), the only value-adding factor, earned wages in return of their labor services supplied. Without the supply of productive knowledge of labor services, the mankind would still be living for the survival in a jungle-like environment.

There were only two **productive factors,** but more than two economic agents receiving parts of the income generated in the forms of interest and rent without actually making any direct contribution to income generation.

Interest on loans (savings) for investment and satisfaction of "desires" may be found, to some extent, rational and justifiable, since both parties are expected to be satisfied with the outcome, excluding excessive charges. But demanding interest on loans to meet "basic needs" of living cannot be defended as economically rational for the persons in need are at the edge of prevailing living standards. Because, they are highly likely to default on repayment of loan and this would damage the smooth functioning of economic system. Nor would it be morally justifiable to help, in any way, push the people over the edge.

Regarding the income distribution, the study demonstrated that:

1. As the productivity grows, the real wages remain the same while their relative share in income declines, in the short-run.
2. Meanwhile the relative share of profit increases.
3. As a result, productivity growth due to "new" technology deteriorates the income distribution for the labor, in the short-run. The long-run position of the labor is up to their bargaining strength at wage rise negotiations with the firms.

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