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DISCUSSING THE POTENTIAL DETERMINANTS OF DECLINING LABOR'S SHARE: A DESCRIPTIVE RESEARCH FOR OECD AND NON-OECD COUNTRIES

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Abstract

Numerous studies have empirically analyzed the reasons for the declining labor share of income, but only a few have found a common explanation in case of an aggregate economic structure. In this study, a major channel through which potential determinants may affect labor share of income is descriptively examined: the distribution/allocation channel. In this regard, the main feature of this study is to focus primarily on openness measures of trade regime and the financial sector. In addition, the institutional side of finance is included in the study in terms of financial development index comprising of both markets and institutions dataset of finance. While these indicators constitute the major body of the study, the other variables are added into the descriptive analysis. Moreover, some of these stylized facts are integrated into the basic framework as they, more or less, affect each sample country over time, especially under the use of liberalization policies imposed by recognized institutions such as IMF, World Bank, and Bank for International Settlements. This article suggests that the distributional variances not only depend on partial effect of a single indicator but also on their interactions with each other. Therefore, the comprehensive analysis of income distribution should consider the interaction terms of some crucial determinants as well as the weakened bargaining power of workers which have started to exaggerate in the early 1980s.

Keywords: Labor Share, Functional Income Distribution, Capital Account Openness, Financial Development, Neoliberalism

JEL Classification: E25, F65, J50

AZALAN EMEK PAYININ POTANSİYEL BELİRLEYİCİLERİNİN TARTIŞILMASI: OECD VE OECD-DIŞI ÜLKELER İÇİN BETİMSSEL BİR ARAŞTIRMA

Öz

Pek çok çalışma azalan emek gelir payının ardındaki nedenleri ampirik olarak analiz etmiştir, ancak sadece birkaçı bütüncül ekonomik yapı durumunda ortak bir açıklama bulmuştur. Bu çalışmada, emek gelir payını etkileyebilecek potansiyel belirleyicilerin başlıca bağlantısı betimsel olarak incelenmektedir: bölüşüm/dağılım bağlantısı. Bu bağlamda, çalışmanın temel özelliği öncelikli olarak ticaret rejiminin ve finansal sektörün açıklık ölçütlerine odaklanmasıdır. Ayrıca, finansın kurumsal yanı, hem piyasaların hem de kurumların finansal veri setlerinden oluşan finansal gelişme endeksi yönünden çalışmaya dahil edilmektedir. Bu göstergeler çalışmanın ana gövdesini oluştururken, diğer değişkenler de aynı zamanda betimsel analize dahil edilmektedir.

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Dahası, bu stilize olguların bazıları, özellikle IMF, Dünya Bankası ve Uluslararası Ödemeler Bankası gibi tanınmış kurumların liberalleşme politikalarını uyguladıkları her bir örnek ülkeyi zaman içinde az çok etkilemesi nedeniyle temel yapıya entegre edilmektedir. Bu makale, bölüşümsel farklılaşmaların sadece tek bir değişkenin kısmi etkisine bağlı kalmadığını, aynı zamanda birbirleriyle etkileşimlerine de bağlı olduğunu öne sürmektedir. Bu nedenle, gelir dağılımının kapsamlı analizi, 1980'lerin başlarında artmaya başlayan emeğin pazarlık gücündeki zayıflama kadar bazı kritik öneme sahip belirleyenleri de dikkate almalıdır.

Anahtar Kelimeler: Emek Payı, Fonksiyonel Gelir Dağılımı, Sermaye Hesabı Açıklığı, Finansal Gelişme, Neoliberalizm

JEL Sınıflandırması: E25, F65, J50

Introduction

One of the major issues, in which the economic paradigms focus on, is based on the analysis of the changes in the income shares of capital and labor, especially after the economic crisis of 2007/2008. The most specific reason for making analysis through the distributional phenomena depends on the fact that there has been a growing inequality in the share of aggregate income starting from the early 1980s and exacerbated in 1990s all over the world. Therefore, the literature on income inequalities consists of a wide array of interdependent factors. All these factors, whether they are economic, social or political, have a mutual effect on one another.

From classical to neoclassical perspectives, the issues around the income distribution have been analyzed by different schools of thought. All of these approaches have their own values and norms as well as their changing methodological structures in the economic framework in terms of both allocational and distributional practices. As Blaug (1996: 467) states that "...the great mystery of the modern theory of distribution is why anyone regards the *share* of wages and profits in total income as an interesting problem". This paper seeks to understand this problem by using different indicators from the socio-economic structure. In this regard, the basic question of this paper can be proposed as follows: what kind of methodological structure should be followed for an understanding of the distributional facts? Although there are various theoretical visions on this issue, this study will be precisely depended on income-based measures of the labor shares, which depicts how labor and capital shares affect inter-household income distribution.

In the neoclassical framework, the distributional issues, based on capital and labor, are primarily changed by way of economic developments, subject to the law of marginal efficiency and technological progress. Each factor earns the amount of income which equals to the value of what they produced for the market. Therefore, the distributional factors do not depend on the dynamics of classes and power relations. According to the income-based measures, the neoclassical perspective expounds that the income shares between capital and labor are constant in the long-run. Even though the income level may fluctuate through economic booms and busts occurring in the economic system, the dynamic feature of long-run period equates the income shares in control of several factors.

In addition, the factor shares are determined by the changes in the elasticity of output with respect to the factors of production, irrespective to the level of economic growth. The price of each factor is determined by their marginal productivities; and thus, the elasticity of output with respect to each factor is constant. Therefore, the factor shares stay constant in the long-run. This paradigm implicitly argues that the economic growth does not depend on the factor accumulation. Rather, it is explained by the growth of total factor productivity (TFP) (Solow, 1957; Young, 1995; Barro and Sala-i Martin, 2003; Limam and Miller, 2004; Acemoğlu, 2008).

Although the TFP growth is a critical component in terms of an increase for the developmental process of economic units, the neoclassical paradigm also depicts that this increase is supported by pro-open policies – namely, financial openness and trade openness - especially after the 1980s across capitalized countries. The constancy assumption about factor income shares is thus iteratively produced by an increasing level of openness. In case of a higher degree of openness in international trade, the existence of differences in national factor endowments provide of making comparative advantages to achieve a higher level of economic development which results with the equalization of the factor incomes over time and across countries (Heckscher, [1919] (1949); Ohlin, 1933). In particular, the Heckscher-Ohlin theory assumes that the countries should be specialized and export goods which are produced by locally abundant factors, while they should import goods that are produced by locally scarce factors. The theory shows that if the elasticity of output for locally abundant factors is high in a country, the specialization should be realized in goods in which they are produced by these locally abundant factors. Alternatively, an increase in the elasticity of national output in terms of abundant factors and a decrease in the elasticity of national output in terms of scarce factors are provided by way of more open trade regime and specialization in specific goods. In the light of these two factors, the income shares are automatically equalized in the economic system.

According to Dunning (1998), the countries should use location-specific advantages which are based on the use of location-specific resources and factor endowments. A firm whose production is largely depended on labor-intensive goods should invest in countries where the labor is abundant. If the firm produces more capital-intensive goods, then it should primarily invest in capital-abundant countries. The direction and behavior of foreign direct investment (FDI) thus should follow this path. In this sense, FDI provides that the production level in sectors where the abundant factors are intensively used is increased and thereby the elasticity of output in terms of abundant factors and their income shares rise in the long-run.

On the other hand, increasing scale of financial relations and transactions across countries in addition to the arguments on behalf of a more open degree in trade regimes is another channel to understand the changing factor income shares in the neoclassical paradigm. The theoretical and empirical foundations are basically depended on two compatible and reciprocal assumptions which of those are provided an increase in the scale of financial deepening (see McKinnon, 1973; Shaw, 1973). While the first assumption indicates that financial liberalization manages the efficient allocation of savings across different economies, the second assumption states that more liberalized financial sector equilibrates the interest rates among different markets and thereby

provides higher economic growth rates through the efficient allocation of financial resources.

Although the pro-liberal policies are the common sources of modern economic paradigm, the synthetic use of two-sides of finance – i.e., financial development and financial openness – have not been empirically tackled yet. Rather, the theoretical propositions of the neoclassical perspective primarily focus on more liberalized financial sector across countries while it ignores the financial development levels of those countries in the context of their mutual relationship. Therefore, the synthetic analysis is needed to understand the entire effects of the financial sector development on changing factor income shares over time and across different country groups¹.

Besides the production-based measures of factor shares, which gives a critical importance on cost elasticity of factors under the assumptions of cost-minimizing behavior of producers for estimating multi-factor productivity and for asks of growth accounting (Cho, Hwang and Schreyer, 2017: 9), the income-based measures are often associated with different factors such as collective bargaining powers, unionization, unemployment, strictness of employment protection and increasing competition level in the global markets. This paper will be based on functional income distribution analysis to discuss the potential determinants of declining labor's share in case of openness (including both trade and finance) and development by primarily focusing on income-based perspective for estimating the changing allocational paradigms². Additionally, the study is based on two assumptions. First, it is assumed that the factor income shares are not constant over time and across countries in contrast to what the neoclassical approach argues (Cobb and Douglas, 1928). Second, one of the major reason behind the changing factor shares fundamentally depends on the variations of bargaining positions between capital and labor. The numerous studies show that the decline in labor's share is significantly correlated with the declining bargaining power of labor in control of two major openness indicators – namely trade openness and capital account openness.

The paper is organized as follows. Section 1 discusses some of the major macro-scale global factors which are strongly influential on the labor income shares. These include globalization of capital; skilled-biased technological progress; labor market and product market policies; privatization and structural changes, which of those factors reciprocally affect each other. Therefore, they should be critically reviewed under their inter-related mechanisms. Section 2 proposes some critical channels about the effects of openness of trade regime and financial sector on the labor shares. The variables that I use in the descriptive analysis mostly reflect those channels in control of major indicators for understanding openness-labor share nexus. Section 3 describes the data structure and its sources in which I employ in the descriptive research. This section also presents some stylized facts for major variables over the 1995-2015 period. The paper ends with the concluding remarks.

¹ For more information on empirical side of this arguments, please see Özdemir (2017).

² The capital share can be taken as residual in this context which is theoretically consistent with the study of Bentolila and Saint-Paul (2003).

1. GLOBAL FACTORS THAT AFFECT THE LABOR SHARE OF INCOME

This section discusses some of the critical factors influential on the labor share of national income and subject to the differential distributional patterns of capital and labor in highly liberalized and capitalized market economies. First, it begins with the analysis of globalization phenomenon which is intensively supported by the neoclassical approach after the 1980s, especially in case of technological progress and factor mobility across countries. Therefore, the multi-dimensional analysis is needed to understand the change in labor's share. Two critical components of the globalization, namely concentration of the trade regime and increasing complexity in the financial sector, will guide us to have a comprehensive outlook for the changing income distribution between capital and labor³.

The first component is primarily related to the removal of restrictions and limitations in trade regimes and to the expansion of global trade chains across the market economies. According to the pro-liberal propositions in favor of more open trade regimes, income shares are equalized through the dynamic mechanism of factor endowments and/or location-specific advantages of the countries in the long-run, even though there might be winners and losers in the short-run. Both of these mechanisms, however, ignore the structural characteristics of the factors since their static theoretical considerations for income shares do not change in time.

However, recent studies have revealed that the policies promoting the use of more open trade regimes are not consistent with their theoretical assumptions and empirical outcomes (Ortega and Rodriguez, 2001; Harrison, 2005; Jaumotte et al., 2008; Boulhol, 2009; Meschi and Vivarelli, 2009; Cassette et al., 2012). For instance, ILO (2011) shows that the wage shares were in a declining trend starting from the implementation of more globalized policies which started in the 1980s and exacerbated after 1990s. Two reasons were decisive about the decline the wage shares: (i) increasing scale of global supply chains and (ii) the structural changes in the economic systems of socialist countries. Both of them have created downward pressure on wages subject to the increasing level of unskilled employment.

Guscina (2006) specifies that the post-globalization era is characterized by the presence of the changes in the technological progress. In this regard, the effects of more open trade regime on labor share of income can be examined particularly by focusing on the changes in the role of highly-skilled workers at the expense of low-skilled workers. Although the technological progress is one of the major determinants of the post-globalization era, the productivity gains were to a large extent distributed in favor of high-skilled workers in which their bargaining positions became much stronger relative to the low-skilled workers. According to International Monetary Fund (2007), the increasing scale of globalization depends on the following factors: (i) the intensity of offshoring; (ii) the share of immigrants in the domestic labor force; (iii) the share of information and

³ The globalization term does not have a single definition or consistent theoretical background instead of its common use in practical and theoretical studies. According to Dünhaupt (2013: 16), it is an extension of the development process which is often expressed as a potential factor that changes the income distribution by way of financial and/or real ingredients. In addition, Otsubo (1996: 1) argues that the globalization is a process which provides the integration of world economies in terms of production, distribution, and the consumption of goods and services

communication technology (ICT) capital in total capital; and (iv) the measures of labor market policies.

The second component includes the globalization of financial relations and transactions. In this paper, the term ‘financial globalization’ is used to refer to the increasing capital mobility over the post-1980 period. In technical terms, the capital mobility might have an effect on the labor share of income through the increasing level of speculative-led investments in finance. If the capital inflows are primarily transferred into the speculative-led investments at the expense of employment-led real investments, the structure of firms and institutions to employ new strategies for future investments, which are possibly influential on potential workforce might be highly intensive in the long-run. In the presence of an increasing competitive pressure in the aggregate economy after the 1980s, the high-return but also high-risk and short-term speculative movements into financial investments may hamper the long-term real investments. Therefore, the labor-intensive policies are transformed into the pro-capital speculative-led policies, and then stimulate the emergence of imbalances between supply and demand in global labor markets. In other words, the use of speculative motives to involve in short-term and risky investments creates more pressure on the emergence of the excess labor on the markets due to the existence of negative conditions in the firm-level investments for the making of new employment opportunities. Additionally, the increasing level of speculative activities in financial transactions makes the sensitivity level of international capital to outflow from the domestic markets and to any kinds of risks much higher, subject to the investment level.

For instance, Harrison (2005) theorizes the bargaining positions of labor and capital for both profit-maximizing firms and utility-maximizing individuals, and in that sense compares the relocation costs of those factors of production in the context of imperfect competition. According to Harrison (2005), first, the relocation of capital is more profitable against adhering to the domestic opportunities; and second, there is a negative relationship between labor shares and the strategy of capital. These two factors are not static due to following empirical facts: (i) the government intervention and capital controls may have a positive effect on the labor shares; (ii) rising trade shares, increasing scale of FDI inflows and the exchange rate crises may negatively affect labor’s income.

Furthermore, Jayadev (2007) makes a multi-dimensional analysis of the major determinants of labor share of income for different country groups in terms of the effects of a higher degree of capital account openness. The empirical results show that the major factor about the changes in distributional practices primarily depends on the reduction of the bargaining power of labor, which leads to an increase in opportunities for capital relocation in parallel to an increasing scale of capital mobility of firms and institutions by contracting the volume of employment. Therefore, the threat option of capital creates negative pressure on the labor shares in countries where there is a strong socio-economic structure for capital mobility.

Besides the globalization measures, skilled-biased technological progress is the second factor that affects the income shares in case of the change in the bargaining positions of workers and capital. The elasticity of substitution ratio among factors of production is one of the major reason for an understanding of the differences in income

relations and substantially alters the income distribution where the production function is given. If the elasticity of substitution is different from one, the technological upgrades will either be capital-augmenting or labor-augmenting, subject to the factor endowments. The stability of the distributional structure between income groups principally depends on the elasticity of substitution ratio for these two factors, which should be equal to one. Hence, the changes in the income shares of capital and labor accruing in an aggregate national income emerge from the differences in factor endowments and the elasticity of substitution ratio. The fluctuations in factor income shares are subjected to the changes in the elasticity of substitution ratio, which is also hinged to the changes in factor endowments. On the one hand, if the elasticity of substitution of capital with respect to labor is lower than one, the labor income shares increase, depending on the increase in the factor endowments – namely the capital-to-labor ratio. On the other hand, if the elasticity of substitution of capital with respect to labor is higher than one, the capital income shares increase, depending on the increase in the capital-to-labor ratio. Therefore, if the productivity of capital is higher than the productivity of labor, the distribution of factor income shares will be biased toward the capital shares, to the detriment of labor shares⁴.

In this theoretical case, the productivity of capital and labor, which is one of the key potential determinants of the distribution among factor income shares, depends on two types of effects: (i) the quantity effect and (ii) the price effect. First, if there is an imbalance between the amount of capital (K) and labor (L), such as $K > L$, the quantity increases should be equilibrated via the relative changes in these two factors. However, if the price adjustment prevails, the net effect of the quantity increases on the elasticity of substitution between K and L become increasingly smaller (European Commission, 2007: 247). Thus, the quantity effect will be dominated by the price adjustment (i.e., the price effect) if the elasticity of substitution ratio of capital with respect to labor is less than one and thereby will lead to an increase in labor's income accruing in national income. Therefore, all these post-globalized technology-led theoretical arguments can be classified as follows: (i) the changes in factor endowments (i.e., the capital-to-labor ratio); (ii) the elasticity of substitution ratio; and (iii) the level of technological progress.

From the existing developments in ICT sector, the transformation of the production system and increasing share of finance in the total economy have led to an increase in the scale of skill-based allocational problems among workers, coupled with an inconstant elasticity of substitution ratio. Related to the technical changes and their effects on socio-economic structure, European Commission (2007: 248) reports that the transition from labor-augmenting technical progress to the capital-augmenting technology-led production system is primarily characterized by repetitive routine tasks and thereby complements skilled workers in their problem-solving tasks for economic issues. Therefore, the rate of substitution between capital and labor is differentiated on the basis of their skills and abilities performing in economic activities. Any incremental change in the capital-to-labor ratio may thus have a significant effect on factor income shares, depending on the level of skill compositions. It also means that income shares are not dependent on the constant ratio of change within the frame of factor endowments and the degree of substitution between capital and labor.

⁴ Figure 1 shows the trends of labor share of income for selected sample countries over the 1995-2014 period

Technical progress and economic developments have been increasingly intertwined in the post-globalization era of the 1980s. Therefore, the technology-led decomposition among workers, as of their skills, may possibly produce different socio-economic outcomes in terms of income distribution between different income groups. The net effects of technology-led progress on the distributional and allocational composition of capital and labor can be investigated in three different components: (i) the changes in production system and the employment structure; (ii) the shifts in sectoral compositions of employment; and (iii) the differentiation in the composition of available jobs.

These have led us to reveal another type of factor that affects income distribution: policy changes in labor markets and product markets. The post-globalization era has shown that the centralization and concentration of capital are at the highest level in both industrial and financial sectors. Therefore, in each sector, the monopolistic competition; and thus the imperfect market structure guides the fundamental alternatives for the production system and the production of an additional surplus. This means that the distributional and allocational paradigms for capital and labor are, to a large extent, subjected to the market structures across countries.

Two major assumptions can be made for the current distributional and allocational issues based on the increasing scale of monopolization⁵ and of imperfect competition⁶ (Blanchard and Giavazzi, 2001: 5). In addition, there are two main components in which they have a critical importance to understand the changes in factor income shares and income inequalities on the basis of the following two assumptions: (i) the regulation of product markets; and (ii) the regulation of labor markets. First, the product market regulations may have a significant impact on the existing economic structure; and thus, they may affect two major factors which are crucial for profit-maximizing firms: (i) the entry costs faced by firms; and (ii) the degree of competition between firms. These are also under the thumb of three additional factors: (i) the elimination of tariff barriers; (ii) the standardization measures; and (iii) the costs of entries (e.g., shadow costs). Second, making the labor market regulations more inflexible primarily changes the strengths of the bargaining power of workers in favor of the capital in case of the existence and the nature of extension agreements, and the rules for the right to strike (Blanchard and Giavazzi, 2001: 10-11).

Furthermore, the labor market and the product market policies may have a significant effect on the reciprocal relationship between the level of employment and wage rates for firms and workers, according to the following models: (i) “right to manage” model (Blanchard and Giavazzi, 2001); and (ii) “efficient bargaining” model (Bentolila and Saint Paul, 2003).

First, the “right to manage” model stipulates that the bargaining option for wages depends on the cyclical position of trade unions and the power relations between firms and workers. In the long-run, firms determine the level of employment to a certain point

⁵ This is related to the consequences of the monopolistic competition in goods market, which is very effective on the sizes of firms’ rent and their workers employing in the production system.

⁶ Complementary to the monopolization of the production system, this is basically related to the bargaining structure of the labor market which determines how much rent is acquired by firms and also by their workers.

where the profits are maximized, irrespective of the wage level. However, in the short-run, the effects of rents obtained by firms on their employment decisions are not significant in which the effect of trade unions on bargaining over wages is given; and thus, there is no robust relationship between the allocational/distributional indicators and the real wages. The results show that factor income shares, which are complemented by the changes in the elasticity of substitution ratio, primarily depend on two factors: (i) the firm ability in case of the profit-maximization process; and (ii) the role of trade unions in the determination of wage level.

Second, the efficient bargaining model implies that firms and workers have a significant effect on wage dispersions; and therefore, the absolute power of firms on employment level is neglected in this model. Equivalently, both of these two economic agents act on behalf of their own interests and thereby the maximization of their utilities. Even though it will be not possible in the long-run, workers extract an extra income from a total surplus in the short-run, irrespective to the level of unemployment. This case means that workers will be much powerful than the capital if the model adopts class relations for the determination of factor income shares⁷.

All these factors and their sub-components are to a large extent characterized by the structural changes emerging in the socio-economic era. Although these factors are very crucial to understand the distributional issues in the post-1980 era coupled with an increasing scale of global components, there is one additional interest which describes the political sides of these factors to get an entire outlook for what changes the socio-economic positions of capital and labor. This is an increasing scale of privatization in total economy and the selling of state-owned enterprises to private owners. The ongoing strategy in case of a high degree of privatized economic relations is to use policies which hinge on the articulation of state-owned enterprises to the targets of private capital and to their profit-led goals. In this regard, the following two outcomes are the major ones that have been exacerbated by the use of restructuring policies towards more privatized economic relations and deformed distributional issues: (i) the fewer opportunities for new employment; and (ii) the changing bargaining positions of labor in favor of capital. For instance, throughout the developing economies, privatization policies and strategies were considered as a major policy-component for future structural adjustment process which was planned in order for the change in existing economic policy regime depending on import substitution strategy where the economies are predominated by free markets and the private sector engagement (Atiyas, 2009: 101). Furthermore, the privatization policies were used by policy-makers as a tool for an increase in overall efficiency of the economic activities, for a reduction in public expenditures and the scope of the state, for the transformation of inefficient public enterprises, for the development of domestic capital markets, and for the expansion of share ownership by the general public⁸ (Atiyas, 2009: 101).

⁷ Some of the critical factors related to changing class relations can also be classified as follows: (1) the political power; (2) the legal rights; (3) the competition structure of the labor and product markets; and (4) the range of skilled and unskilled labors in employment structure.

⁸ According to Williamson and Mahar (1998: 2), financial liberalization process has six different dimensions: (i) relaxing of all credit controls to provide free mobility of financial assets flows; (ii) deregulation of market interest rates; (iii) making banking system and the financial system free from any restriction; (iv) providing of bank autonomy; (v) providing of bank's private ownership; and (vi) making international capital flows more open to foreign transactions through the abolition of credit

The structural transformation of state-owned enterprises through the increasing scale of privatization motives and the collapse of the impact factor of a government agency in the total economy might have a significant effect on allocational and distributional issues, and more specifically on labor shares in two ways. First, changing dynamics of labor share of income may depend on the differences of sectoral composition of an aggregate economy, subject to the fact that the labor's income in low value-added sectors was being in a negative tendency in the post-1980 era. Second, if the profit share of the public sector is assumed as zero, then, by definition, the privatization of the public sector might result in a decline in the labor share of income in the average term (Dünhaupt, 2013: 19).

2. HOW OPENNESS CAN AFFECT THE LABOR SHARE

The previous section showed that the globalization thesis consists of a wide variety of factors and each of them has a particular role in the theoretical and empirical frameworks which direct us to discover restructuring policy components of trade and finance and to understand the reasons for changing labor shares. However, the descriptive analyses on the basis of the liberalization process of trade regime and financial sector capture different points and go beyond these factors to point out the effects of the implementation of more open policies on labor share of income. Therefore, each factor has its own weight and importance in the descriptive framework, depending on dynamic features of income pyramids.

The post-globalized economic relations of the 1980s have given much importance to the use of more open policies both in trade and finance. The logic of this case has primarily depended on the fact that the economic growth would be much higher and the allocation of income between capital and labor would be much more equal if the restrictions on openness measures are relaxed. Hence, financial liberalization and trade openness should not be restricted by any kind of intervention, policy or legal regulation.

The globalization dynamics have been particularly affected by the changes in economic growth components and distributional issues both at the micro and macro levels. For instance, related to the distributional conditions, Harrison (2005: 1) focuses on the answer of the following question "...how has globalization affected the relative share of income going to capital and labor?" The empirical outcomes show that the income shares of capital and labor are not constant over time due to changes in factor endowments and government spending as well as the traditional parameters of globalization such as trade shares, exchange rate crises, fluctuations in the level of foreign investment, and capital controls. While capital controls and the government spending indicators increase the labor shares, rising trade shares and exchange rate crises have negative effects on the share of income accruing to labor. However, the increasing impact of technological innovations on factor income shares are neglected in the analysis which is strictly related to the globalization of capital.

controls. In addition to these dimensions, some of the major policy implications of more liberalized financial sector can be sorted as follows: (i) removing of all types of controls on deposit and credit interest rates; (ii) relaxing the exchange rate controls; (iii) providing more access to foreign financial institutions to invest in domestic financial markets; (iv) introduction of new ways for domestic citizens to trade in foreign financial markets; and (v) reduction of tax rates imposed on financial profits. For more information, please see Williamson (1990, 2002, 2004-2005).

Depending on this case, Guscina (2006) examines the globalized economic transactions by dividing the empirical period into two parts as pre- and post-1985⁹ to integrate the role of the globalization of capital into the technological progress. The pre-1985 period is primarily depicted by productivity gains which are the engine of a higher profit share of capital¹⁰. However, in the post-1985 period, changes in the degree of trade openness are effective on factor income shares as well as high levels of productivity (Guscina, 2006: 16). Jaumette et al. (2008) also show that the increasing level of income inequality across developed and developing economies for two decades after the 1980s was affected by the changes in the level of technological progress. However, the empirical results indicate that more open trade regimes offset the negative effect of technological progress on the labor share of income in the long-run.

In addition to these studies, International Monetary Fund (2007) staff points out that there is a mutual relationship between two sides of globalization – namely the globalization of capital and that of labor. The benchmark results of the theoretical model specify that the changes in trade price have a negligible effect on labor shares due to the fact that the decline of export prices limit the negative effects of import prices on national income accruing to labor. Moreover, more open economic policy regime may have different ways that change the labor shares coupled with fluctuating trade shares such that the intensity of offshoring, the share of immigrants in the domestic labor force, the share of ICTs capital in total capital and tightening labor market policies. Especially in case of these last factor, Jaumotte and Tytell (2007) state that higher degree of technical progress and innovational upgrading have negative effects on labor's share in different sectors – e.g., manufacturing, agricultural and financial sectors - based on unskilled workers in producing goods and services.

However, the distinction between short-run and long-run effects of globalization indicators on labor shares are neglected in many cases. For instance, the long-run effects of globalization on labor's share are mostly regarded as short-run effects in case of globalization-income inequality nexus in the study of Diwan (2001). The impacts of short-term distributional conflicts about income inequality are more complex and multi-factorial in comparison to long-term changes. Although each period has its own characteristics in terms of the changes in factor income shares, the fundamental hypothetical question (Globalization for Whom?) of Rodrik (2002) on the basis of income distribution still valid. Responding to this question, it is important to note that several factors are intertwined with each other in which the analysis of the globalization of capital and/or of labor is strictly needed to account for different parameters effective on the capital accumulation and thereby the distribution of national income. As Sweezy (1997) rightfully states, "...globalization is not itself a driving force. It remains what it has been throughout the period we think of as modern history: the always expansive and often explosive capital accumulation process."

Sweezy's argument directs us to seek for the determinants of trade liberalization and financial globalization in parallel to the changing income shares. The policy components of the early 1980s have spread throughout to the whole social strata of almost all developing and emerging country groups in 1990s and afterward. In particular,

⁹ The latter period depicts the information and technology age.

¹⁰ This mutual gains are supposed to be depended on capital-labor accord

changes in the conditions of the labor markets coupled with more open trade regimes and capital account have exacerbated the income inequality by making markets more competitive and monopolized¹¹. Therefore, increasing the degree of competitiveness in labor markets has limited the available job opportunities and made them more complex mostly due to a rise in the level of labor mobility across countries which resulted in a rise in the amount of labor supply competing for low-wage jobs (Bluestone, 1995). Fülberth (2011: 265) argues that it introduces an increase in the scale of internationalization of production methods which turns out with the expansion of transactions in international goods and services coupled with the liberalization of both capital account and trade regime. Thus, these two main components – namely competition level and monopolization – of changing labor market conditions have been intensified by also implementing deregulation policies on the basis of the attacks to the labor unions and social rights of workers (Pantuosco et al., 2001; Volscho and Kelly, 2012; Rosenfeld, 2014; Herzer, 2016).

Given this background, Jayadev (2007) focuses on the flow of capital in the context of the changes in the degree of capital account openness thus investigates the reciprocal relationship between financial openness and the labor share of income. In parallel to the deregulation of labor markets and the internationalization of labor mobility, there is a negative correlation between these two indicators which depend on the fact that the increase in the degree of openness in capital account alters the conditions of bargaining power in favor of capital both at firm-level and economy-wide level. Stockhammer (2009) also finds similar empirical results in case of OECD countries in which financial openness has a negative effect on wage shares mostly due to use of more open policies in financial activities and transactions. However, in contrast to the financial openness, the increasing level of union density had a significant, direct and positive effect on the wage shares. Further, Stockhammer (2010a) points out that three distinct economic factors, driven by financial liberalization, might have an effect on income polarization: (1) increasing rentiers income (Dumenil and Levy, 2001; Power et al., 2003; Jayadev and Epstein, 2007); (2) rising income shares of financial sector (Foster, 2006; Foster, 2007; Foster, 2008; Foster and McChesney, 2009; Foster, 2010; Lapavitsas and Mendieta-Munõz, 2016); and (3) the changes in the power balance between capital and labor (ILO, 2008; Yeldan, 2009). All these three factors have been directly affected the income disparity of economic periphery.

Macroeconomic perspective leads us to argue that the structure of distribution may be affected from several factors, such as exchange rate crises, volatility in capital flows, and international currency imbalances subject to the increasing scale of financial globalization across world economies. For instance, Epstein (2005) and Reinhart and Reinhart (2008) empirically show that the sudden stops in capital inflows might possibly have strong but negative effects on the economic activities which then cause severe exchange rate crises, especially in emerging and developing country groups. Additionally, more globalized financial relations may allow for economies to run large amounts of current account deficit/surplus ensuing with the meltdown of their reserves in case of financial and/or real economic crises.

¹¹ In particular, this is highly notable for the labor markets which can easily be seen from changing bargaining positions in favor of capital and increasing scale of labor mobility across countries.

The dynamics of the liberalization do not only depend on the implementation of more open financial policies but also more globalized trade regime. The direct and indirect effects of trade openness on income distribution can essentially be classified on the basis of the following factors: (i) the increasing sectoral imbalances; (ii) an increasing scale of sectoral discrimination; (iii) the low levels of development in infant industries; and (iv) the problems in balance of payments. According to Crinó and Epifani (2014), the trade imbalance¹² between North and South economies is one of the major reasons that causes these factors to become highly influential in a change of income distribution and of the exacerbation of wage inequality. For instance, trade surplus-wage disparity nexus for an understanding of income fluctuations in modern sectors may possibly be affected by the following reasons: (i) an increase (reduction) in average skill intensity of exports; (ii) an increase (reduction) in the relative demand for skills; and (iii) an increase (reduction) in skill premium.

These factors have led us to find out the answer to the following question which is intensively discussed by Milanovic and Squire (2005): “Does tariff liberalization increase wage inequality?” The empirical results show that the causality between tariff reduction and increase in wage inequality is statistically significant and strong enough for a large sample of countries, and especially for specific country groups which have high levels of trade union density. Therefore, the power limits of trade union measures may be included as another factor that changes the labor market conditions to the detriment of workers and their bargaining power which aggravate wage polarization problem between low- and high-income countries, particularly in case of increasing scale of trade volumes across market economies.

According to Goldberg and Pavcnik (2004), trade liberalization has a negative effect on the industry wage premiums in different sectors where tariffs are largely reduced and thereby deepens by the fact that the labor market rigidities and the dissipation of industry rents limit labor mobility across different industries both in the short- and long-run¹³. In addition, industry wages are not highly correlated with the reforms implemented in trade. Those kinds of similar outcomes, including both empirical and theoretical considerations, can be obtained in large-panel data analyses, which are based on micro-scale and country-fixed structures, to find out further details for the relationship between trade liberalization and the labor share of income¹⁴.

On the other hand, some of the main factors about the differences in income composition, especially in favor of the capital in case of developing countries, can be ranged as follows: (i) the lack of efficient collective bargaining power of workers; (ii) the skill-based inequalities in different sectors; (iii) the effects of import penetration on wage polarization; and (iv) the imbalances in the sectoral composition of state enterprises. These should be, however, regarded as the fact that the impulses through the economic and financial transformations emerged in the aftermath of 1980s have different weights in different socio-economic structure, subject to the characteristics of any country.

¹² For instance, this is particularly called as “*uneven development*” in scholarly debate in case of development-based studies.

¹³ However, their empirical research is based on developed countries.

¹⁴ Please see Galiani and Sanguinetti, 2003; Ferreira et al., 2007; Ghazali, 2011; Macor et al., 2011; Ahsan and Mitra, 2014; Kamal et al., 2015

Therefore, time factor in an attempt to analyze the nexus between labor shares and technological progress in case of more open economic regimes may have a high significance for an understanding of reciprocal relations between different measures¹⁵.

Furthermore, country-specific conditions and economy-wide level factors may have possible effects on distributional conflicts, and more specifically on income inequality between capital and labor (Bentolila and Saint-Paul, 2003; Boggio et al., 2010; Guerriero, 2012; Elsby et al., 2013; Karabarbounis and Neiman, 2013; Stiglitz, 2013). These include some specific factors which are complementary to each other and classified as follows: (i) the rapid decline in relative prices of investment goods led by technical progress in conjunction with high rate of elasticity of substitution between capital and labor; (ii) the skilled-biased technical change; (iii) the rising level of competition that put downward pressure on wages led by increasing scale of international trade and investment; and (iv) the changing bargaining positions in favor of capital (Cho, Hwang and Schreyer, 2017).

Although the increasing scale of globalized relations in the financial sector and more open trade regime may have differential effects on labor shares in case of the long-run determinants of economic activities, income shares are subject to the changes in political and social components across different markets. For instance, Guerriero (2012) discusses potential factors which provide a priori knowledge on whether they are instrumental to figure out the changing characteristics of factor income shares or not; and therefore, given this background, the estimation method of labor's income is built on a large-scale panel data analysis both for high, medium, and low levels of economies. Each estimation technique uses different indicators to measure the changing statuses of labor share of income; and thus, they provide an appropriate background for the analyses made at the firm level and economy-wide level. Irrespective of their own values, each one incorporates their micro- and macro-scale components into the theoretical framework (Ryan, 1996; Wolff and Zacharias, 2007).

By taking into consideration of this case, Krueger (1999) corroborates the idea that there are critical differences for estimating the factor income shares. Therefore, according to Krueger (1999: 10), "...labor and capital no longer divide so neatly into mutually exclusive categories." The dynamics of the functional income distribution, in that sense, consist of different socio-economic dimensions, particularly on the basis of distributional and allocational conflicts between capital and labor. Therefore, the restrictive measurement technique for factor income shares, or alternatively the use of one type of factor selected from specific income categories is possible to result in the emergence of biased assumptions for making analysis to understand the changing distributional/allocational parameters between capital and labor.

In parallel to these methodological considerations, Elsby et al. (2013) focus on some potential determinants which are crucial to find out the reasons for the decline in labor shares in the United States by way of comparing socio-economic and political components of pre- and post-1980 periods. This classification is important to figure out the changes in the economic paradigm over time, which are stimulated by the factors that

¹⁵ Please see Esquivel and Rodriguez-López, 2003; Kehoe et al., 2008; Xu and Ouyang, 2015.

are sensitive to differential income shares, especially for labor's income. According to Elsbj et al. (2013), the following factors depict the reasons for the ongoing downward pressure on the labor share of income: (i) the understatement of the income shares of the self-employed workers; (ii) the substantial movements in the labor shares within industries; (iii) the substitution of capital for (unskilled) labor; (iv) the decline in unionization; and (v) the offshoring of workers.

In the further analyses, those kinds of factors and the others have been empirically measured in different economic structures and in the control of different indicators, such as the presence of the economic crises, privatization, and barriers to trade (Onaran, 2007; Stockhammer, 2010b; Azmat et al., 2012). All in all, either in the case of structural problems or capital-based socio-economic differentiation, the factor income shares were upwardly biased in favor of the capital in the post-1980 era across different countries, irrespective of their economic development stages and economic growth rates.

3. DESCRIPTIVE ANALYSIS AND STYLIZED FACTS

The micro- and macro-level analyses for income distribution, especially based upon the labor's share, have different dynamics. In addition to their economic dimensions, the social factors are important for the analysis of changing distributional and allocational phenomena. Therefore, besides their partial effects, the synthetic determination of these factors, all should be considered. One of the major reasons is to avoid from the emergence of biased outcomes within the frame of increasing scale of global relations between developed and developing country groups. This shows that the post-globalized era comprises of different parameters which are all intertwined with each other at a firm-level and an economy-wide level. While the short-term effects of one parameter on another are somewhat limited, the correlations between each variable may possibly be changed in the long-run, depending on several factors. In other words, while the effect of one parameter on another exhibits an insignificant structure per se, this may potentially be effective when it is used interactively with other parameters.

The main structure of this paper is based on three major data structures, controlling with several other factors: (i) financial openness and development; (ii) trade openness; and (iii) government activity. In its most basic form, the government expenditures have followed a sluggish pattern until the crisis of 2007/2008, even though the degree of financial globalization and of trade openness significantly increased in both developed and developing market economies over the 1995-2015 period. However, this case reveals that one major point should be critically specified. Contrary to a linear increase in trade openness index of sample countries, it is not possible to state that the increases in the financial openness are not homogeneous, especially for between-country comparisons. For instance, there is a substantial amount of difference between advanced and emerging countries in terms of the degree of financial openness over the 1980-2015 period. Although the scale of openness in finance is different between developed and developing country groups, the structural basis of these countries turned to be being highly open starting from the early 2000s until the 2007/2008 crisis, coupled with the significant changes emerged in the level of both economic and financial developments. Therefore, different measures such as factor endowments, macroeconomic and structural determinants, and labor markets policies, all should be considered to make a

comprehensive analysis towards the dynamic structure of the financial sector, and thereby, the reasons for the declining labor shares.

3.1. Labor’s share

There are different kinds of methods for measuring the labor share of income. These methodological differences in the estimation procedure of labor shares infer that there is no common technique¹⁶. For instance, Jayadev (2007) uses United Nations (UN) data set which was regularly announced until 1968. In his methodology, the labor’s share is measured by the compensation of employees as a share of gross domestic product (GDP)¹⁷. Table 1 shows different methods for estimating the labor share of income (LS). According to Guerriero (2012), all variables for labor’s share show a declining trend after the 1980s, though there are differences between each other.

Table 1. Data and computation methods of labor share of income

Variable	Measurement Method
LS1	(Compensation of employees/[Value added (-indirect taxes - fixed capital)])
LS2	(Compensation of employees + 2/3mixed income/[Value added (-indirect taxes - fixed capital)])
LS3	(Compensation of employees + mixed income/[Value added (- indirect taxes - fixed capital)])
LS4	(Compensation of employees / [Value added (- indirect taxes - fixed capital) - mixed income])
LS5	[(Compensation of employees*total workforce)/number of employees] / [Value added (- indirect taxes - fixed capital)]
LS6	[(Compensation of employees/number of employees)*(total workforce-employers)] / [Value added (- indirect taxes - fixed capital)]

Source: Guerriero (2012)

Although the method using by Jayadev (2007) is available and common for numerous database (e.g., Penn World Tables, AMECO and Conference Board), two major problems should be pointed out in case of this estimation technique which causes labor’s share to deviate from its original level. First, it is collected from the formal sectors, and thus, the data collected from the informal sectors are not included in the labor share of income. Second, the self-employment income data is not included in this method, which makes regression outcomes more biased.

As Jayadev (2007: 426) rightfully admits that the exclusion of the data from informal sectors causes to be reported either more or less of labor share of income, especially in the context of developing economies. According to Krueger (1999) and Gollin (2002), if the self-employment income is assumed as a capital share or is excluded from measuring the labor’s share, it may lead to the following possible results: (i) the capital share will be much higher, or (ii) the labor share will be much lower. In particular, this case is more relevant in emerging and developing country groups where the self-employment ratios are much higher relative to developed country groups¹⁸.

¹⁶ AMECO, OECD, PWT and UN are some major examples that show these differences for the estimation of labor’s share.

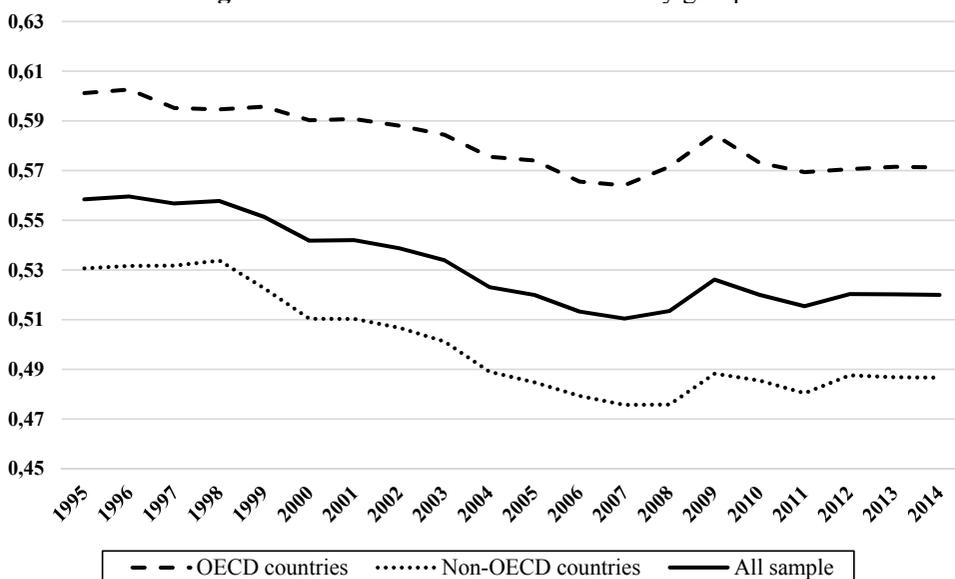
¹⁷ This methodology is also prevailing in Rodrik, 1997; Diwan, 2001; Daudey and Garcia-Penalosa, 2007.

¹⁸ However, in panel data analysis, the availability of the data for self-employment income (i.e., the mixed income) is scarce for almost all countries and for given time periods, especially for the countries where the agricultural production is still widespread in total economy.

In the following descriptive fact presented in Figure 1, the data for labor's share is obtained from Penn World Tables (PWT) 9.0, which is calculated as a share of labor compensation in GDP at current national prices¹⁹. The major reason why I use PWT 9.0 dataset depends on the fact that it remarks the importance of the self-employment income, and thereby, adjusts for the labor share of income²⁰.

The data for labor share of income includes such income measures earned by workers as gross wages and salaries, cash allowances, overtime pays, commissions, social contributions, the income of students from paid works, the income received by shareholders, and income by outworks. However, it excludes the value of unpaid voluntary work, the income of the unemployed, income of those are not in the labor force, unpaid family workers, property income, and some expenditures made by employers. Figure 1 depicts the pattern of labor shares of all sample, OECD and non-OECD countries between 1995-2014 period.

Figure 1. Labor share trends across country groups



Source: Penn World Tables 9.0

3.2. Financial openness

To measure the extent of openness in financial transactions, newly developed and updated index (i.e., KAOPEN index) produced by Chinn and Ito (2006) will be used in descriptive presentation to show the trends of financial sector liberalization over time which will then provide more information on whether the effects of financial openness

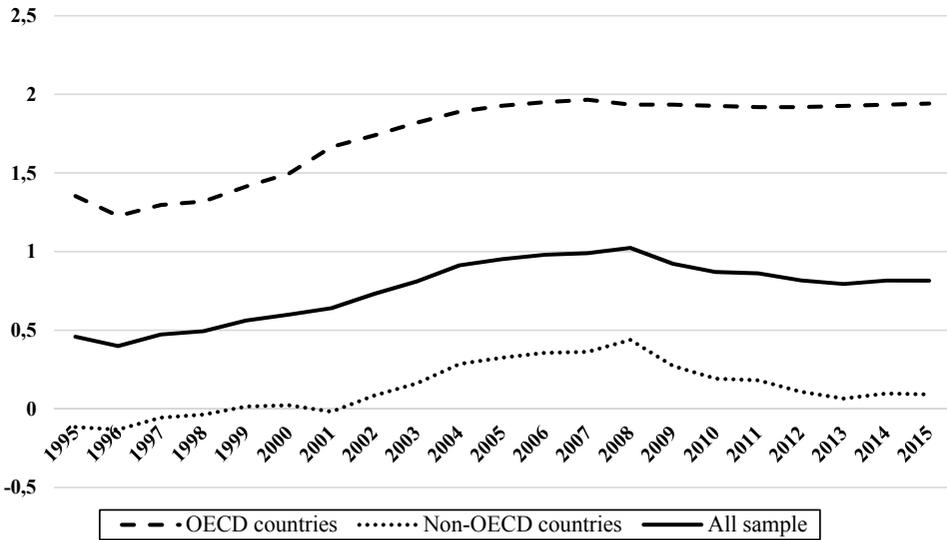
¹⁹ In reference to Table 1, labor share variable that I use in the empirical analysis is closer to LS2 type which is adjusted from the self-employment and other sub-indicators.

²⁰ For more information and technical details please see Feenstra et al. 2015

may be long-lasting or temporary. Similar to other financial openness indices²¹, KAOPEN index is based on the information about the capital mobility obtained from International Monetary Fund’s Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) to incorporate the extent and intensity of capital controls. As Chinn and Ito (2008: 310) initially state that the AREAER is far-reaching to collect information about the rules and regulations which governs external account transactions for a wide range of countries.

The KAOPEN index is also based on the first principle component of four binary variables estimated in International Monetary Fund’s AREAER²². It indicates that the higher values of KAOPEN index depict more open financial regimes and the lower values depict least open financial regimes. Based on these four binary variables, the KAOPEN index covers all data from selected sample countries for the 1995-2015 period. One of the key advantages of using the KAOPEN index depends on its relative transparency in the way of construction, ease of updating, and wide coverage over time and across countries (Chinn and Ito, 2008: 314-317). The values for financial openness are ranged between [-1.86] and [2.46] in which the most financially open country takes the value of 2.46 and the least financially open country takes the value of -1.86. Figure 2 shows the openness trend in the financial openness, proxied by the capital account openness index, for the 1995-2015 period.

Figure 2. Capital account openness trends across country groups



Source: Chinn-Ito Index

²¹ Please also see Quinn, 1997; Kraay, 1998; Rodrik, 1998; Williamson and Mahar, 1998; Klein and Olivei, 1999; Edwards, 2001; Rajan, 2003; Lee and Jayadev, 2005; Kose et al., 2006.

²² k_1 variable shows the presence of multiple exchange rates; k_2 variable shows restrictions on current account transactions; k_3 variable shows the restrictions on capital account transactions; and k_4 shows the necessary points of the surrender of export proceeds (Chinn and Ito, 2006: 169).

Economy-wide level analyses impose some constraints on capital account transactions which limit the range and the volume of financial openness (Edison et al., 2002). In this regard, two different measures can be alternatively used for further methodological contexts: (i) *de jure* measure of financial openness, and (ii) *de facto* measure of financial openness. KAOPEN index is based on the *de jure* measure since it takes the regulatory restrictions on capital account transactions into account²³.

The pros and cons of these two measures related to the financial openness are thus different from each other. On the one hand, the *de jure* measure may not lead to higher cross-border transactions even though the restrictions on these transactions, to a large extent, are being reduced for domestic and international capitals in control of such factors as the investment ratio, the degree of economic development, and the labor market policies. However, it provides new ways to analyze the regulatory structure of capital controls (Arestis and Caner, 2009: 303). On the other hand, the *de facto* measure may produce biased results through the use of price-based measures since the private sector has different opportunities to run out of the barriers and restrictions imposed on capital account transactions (Edwards, 1999). However, it may give wrong signals to evaluate the macroeconomic conditions even though there are no changes in the regulatory structure of the capital account.

3.3. Financial development

One of the major reasons that the financial development should be considered as an important indicator due to the fact that the economic structure of post-1980s period was primarily changed through the increasing importance of the financial sector and financial integrities across countries, which led to the removal of barriers and constraints on capital mobility. In this regard, the increasing scale of financial sector in aggregate economic activities together with an increasing degree of financial development level can be divided into two parts. On an individual basis, there is an increasing level of dependence on the consumer credits which are the basic needs for the compensation of wages. At the firm-level, there is a joint relationship between each measure which is primarily subject to the firm's demand for higher resources, within the context of increasing scale of market competition.

Given this background, the increasing scale of financial sector in economic transactions was not only transformed the mutual relationship between individuals and firms but also their financial motives. Both individual- and firm-level factors have created a significant pressure on financial activities to stimulate innovational potentials led by the technical progress through the increasing scale of financial relations, motives, and transactions over time. Therefore, I compose this descriptive structure on bilateral analysis of the financial development with two fundamental measures: (i) trade openness and (ii) financial openness.

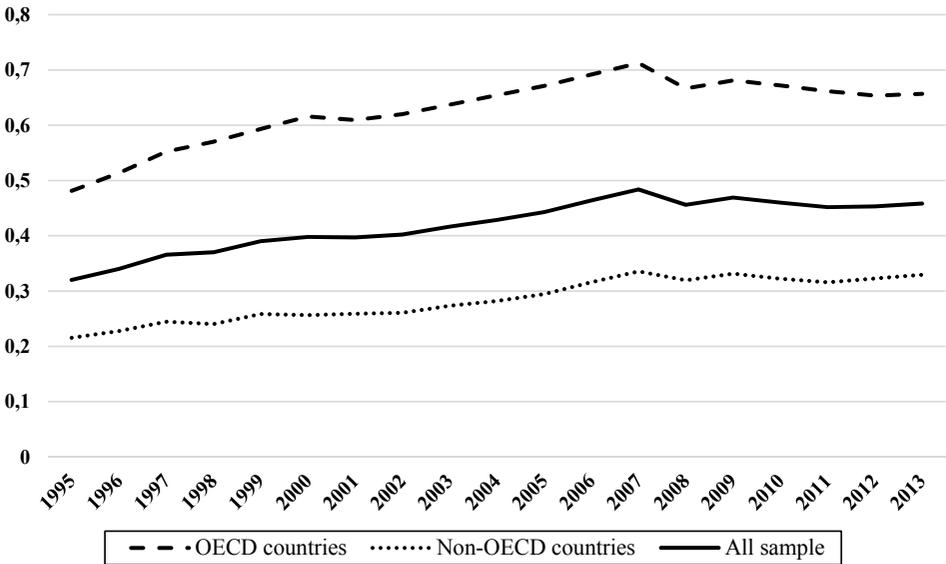
To measure the extent of financial development indicator in the descriptive research, I use newly introduced broad-based index developed by Svirydzenka (2016). This index involves a number of sub-categories including both financial markets and institutions. On the one hand, financial institutions cover banks, insurance companies,

²³ Therefore, the KAOPEN index is assumed as different from *de facto* measure of financial openness which is based on prices of factors.

mutual funds and pension funds. On the other hand, financial markets cover stock and bond markets. More specifically, Svirydzhenka (2016: 5) summarizes the financial development index based on these sub-categories as follows: (i) depth (size and liquidity of markets); (ii) access (ability of individuals and companies to access financial services; and (iii) efficiency (ability of institutions to provide financial services at low cost and with sustainable revenues, and the level of capital markets activity).

Figure 3 shows the trend of financial development between 1995-2013 period. Although the level of financial development has increased after the 1980s, it is not easy to make further arguments on distributional and allocational problems arising from financial relations. On the one hand, the increasing access to financial resources does not mean that they provide the same financial opportunities to each economic agent. On the other hand, it does not mean that they produce efficient outcomes for an aggregate economic structure.

Figure 3. Financial development trends across country groups



Source: Svirydzhenka (2016)

As a consequence, the major issue is to ascertain the reasons behind the increasing scale of household demand for financial resources. Do they demand financial resources for their individual investments or for their economic problems to compensate wage decreases and also welfare reduction? These questions have critical importance to understand the ongoing trends of factor shares at firm-level and of income distribution at economy-wide level, which also leads us to make a synthetic analysis of different measures such as financial development, financial openness, and trade openness.

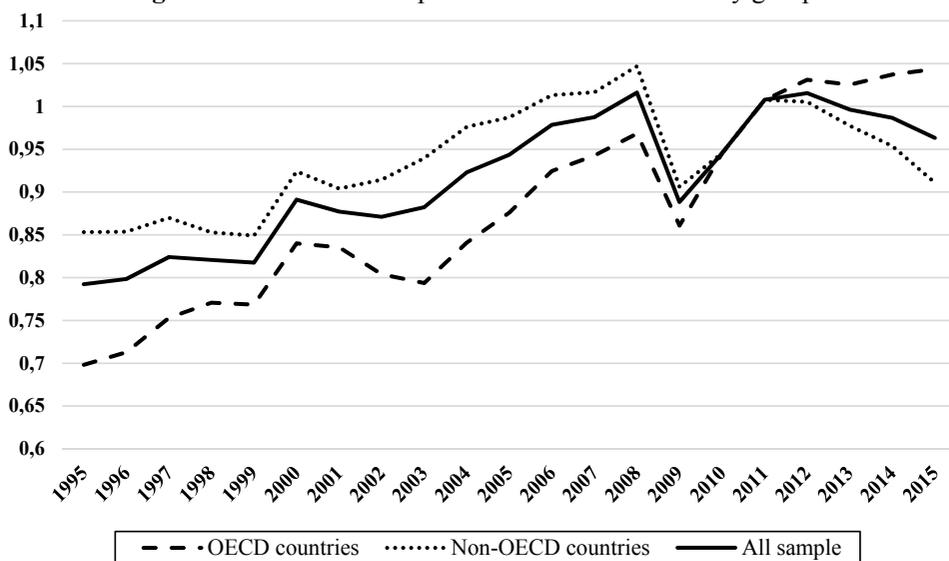
3.4. Trade openness

I describe two measures of trade openness. First, following the previous studies I employ data from World Development Indicator (WDI) database of World Bank and measure the trade openness by exports plus imports divided by gross domestic product. I

call this first measurement ‘nominal trade openness’ because the price adjustments are ignored. Figure 4 shows the trend in (nominal) trade openness over the 1995-2015 period²⁴.

The benchmark model primarily discusses the following theoretical argument that the widening income gap between factor shares, more specifically the huge differences in the shares of labor income within and between developed and developing economy groups, can be alleviated by providing higher integration in different trade regimes. For instance, such trade integration methods can be listed as follows: (i) tariff reductions; (ii) the abolition of quotas; and/or (iii) making laws to regulate trade relations.

Figure 4. Nominal trade openness trends across country groups



Source: World Bank, World Development Indicators

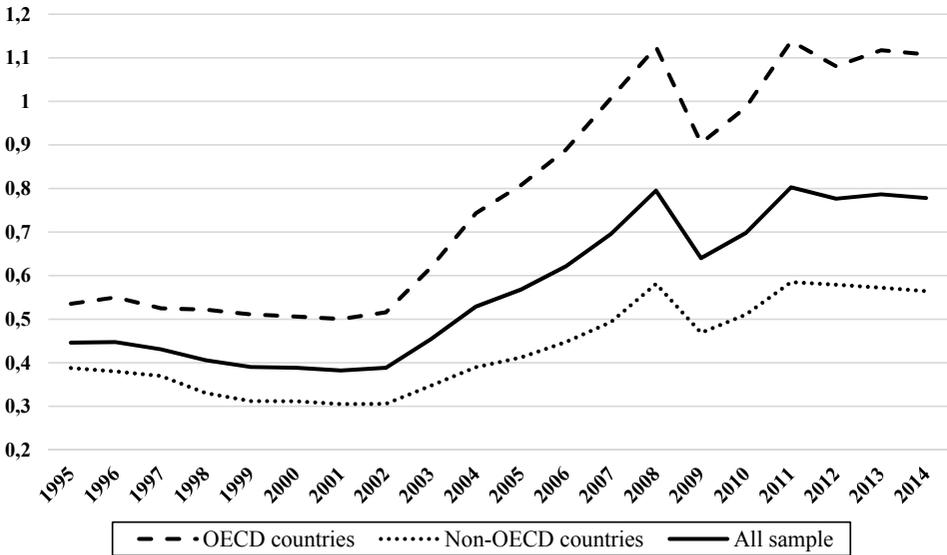
The empirical studies based on Heckscher-Ohlin model, however, may have theoretical and methodological problems. One of them is about the exclusion of the bargaining positions of labor and capital from the analysis. The counter investigations about this framework show that the liberalization of trade regimes puts the downward pressure on the bargaining power of labor in favor of capital, and thereby, decreases the labor share accruing in the aggregate national income (Ortega and Rodriguez, 2001; Harrison, 2005). On the other hand, the methodological issues may produce biased results, especially for making analysis towards the trade-based income distribution structure. For instance, if the model follows the method of Alcalá and Ciccone (2014),

²⁴ “The main reason for using this traditional trade measurement method is to conceptualize and test the validity of Heckscher-Ohlin model in the context of globalization and unrestricted economic periphery. According to Heckscher-Ohlin model, labor-abundant countries provide employment to capital-intensive countries if they increase trade integration through the use of liberalization and deregulation policies in trade regimes; and therefore, capital-intensive countries provide more capital to labor-intensive countries required for more economic development. In that sense, while the share of labor in capital-intensive countries decreases, it increases in labor-abundant countries.

the traditional trade openness measure should be dropped from the model because it causes downward-biased estimates for long-term empirical outcomes. The major reason depends on the extent of the tradable and non-tradable sectors.

Suppose that the trade has a positive effect on productivity, but the productivity gains are much higher in the tradable sector relative to the non-tradable sector. If this is given, then the relative prices of non-tradable goods increase and trade-to-(nominal) GDP ratio decreases, depending on the condition that the demand is relatively inelastic for non-tradable goods and services. Therefore, trade-based productivity increases will proceed in line with a decline in trade-to-(nominal) GDP ratio. Given this background, Alcalá and Ciccone (2014) use another variable to measure the degree of trade openness in which the nominal term is adjusted by the GDP at Purchasing Power Parity. This new measurement is called as real trade openness in which the international price differences for non-tradable goods and services are corrected for the denominator. Hence, I alternatively use this indicator in an attempt to describe the pattern of adjusted effects of trade liberalization on the labor share of income and to assess that whether it exhibits a different pattern than the nominal trade openness in descriptive framework²⁵ (Rodrik et al., 2002; Dollar and Kraay, 2003; Herzer, 2013). Thus, Figure 5 describes the trend in (real) trade openness over the 1995-2015 period.

Figure 5. Real trade openness trends across country groups



Source: World Bank, World Development Indicators; Penn World Tables 9.0; Author’s calculations

3.5. Control variables

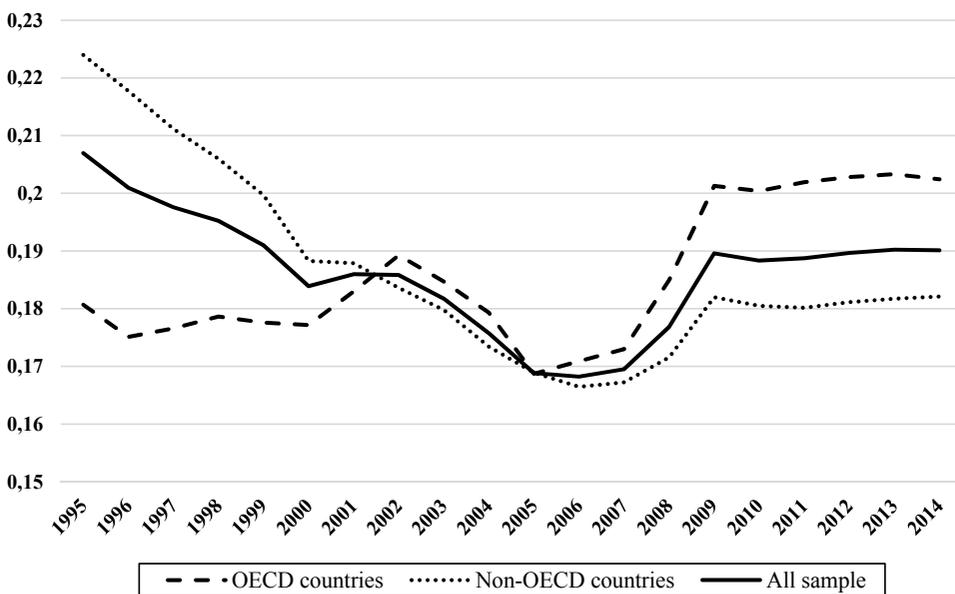
In addition to the mentioned-above determinants, I will also use several variables which are potentially effective on the changes of labor share of income. Primarily, the government expenditure as a share of GDP is one of them besides the openness, including

²⁵ “In addition to these two major measures for trade openness, the reader can be also benefited from Yanıkaya (2003) for other measures to assess the effects of trade openness on income shares.

trade and finance, and financial development measures. Related to the government activity, I also use the government effectiveness index to understand the trend in legislative side of the governmental changes over time.

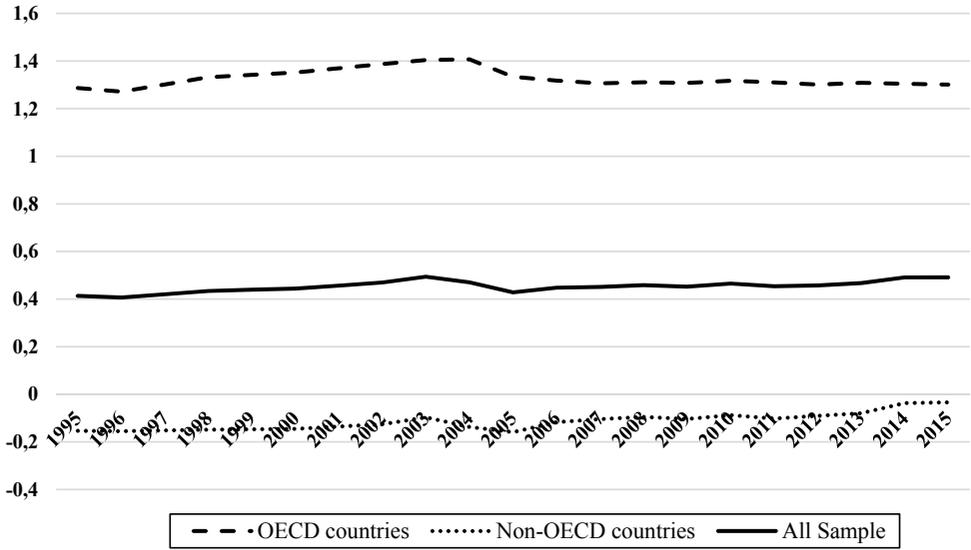
The government effectiveness is used as a policy component due to assess the following potential factors that are influential in the political side and sensitive to volatilities in income shares. First, the degree of government effectiveness may have an ample effect on the legislative structure of income distribution, within the frame of the increases in the volume of trade and financial transactions. Second, it may cause to differ the positions of factor shares in political debates and it is, to a large extent, subject to increasing scale of privatization policies in socio-economic realm, especially for developing and emerging markets. Third, it may create positive discrimination in favor of the labor's income share by limiting the profit opportunities of capital – which is obtained from government-led investments through the use of legal force in policy-making. Figures 6 and 7 describe the changes in government activity in case of both economically and politically.

Figure 6. Government share trends across country groups



Source: Penn World Tables 9.0

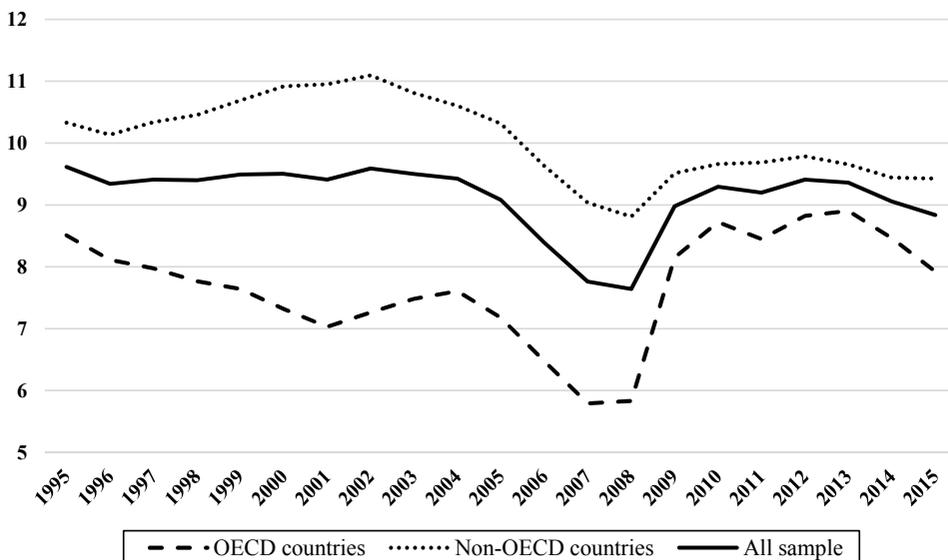
Figure 7. Government effectiveness trends across country groups



Source: World Bank, World Governance Indicators

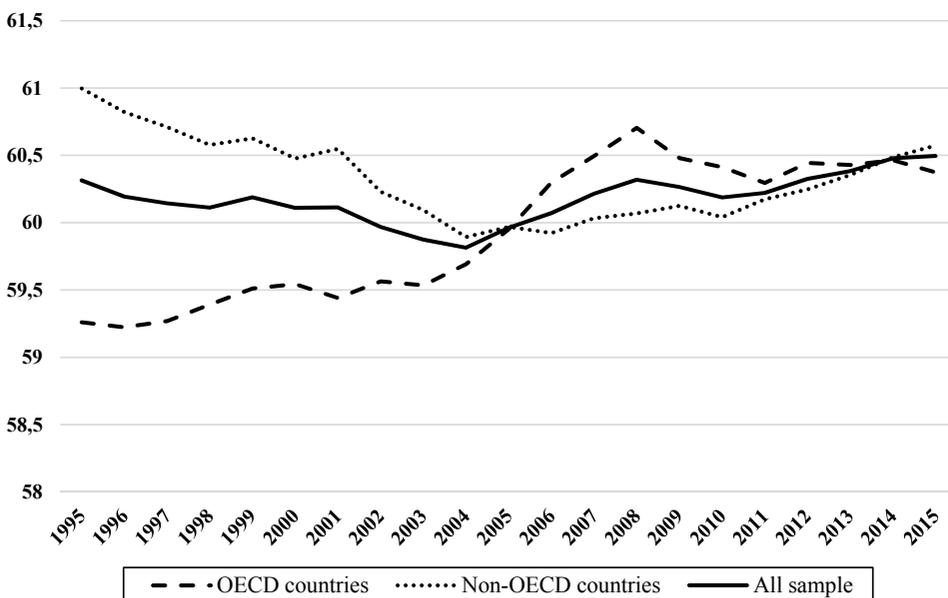
Finally, I check the trend in bargaining positions of workers whether there may be any potential and crucial ups and downs across country groups and over time. The bargaining power measurements have a special importance in the pattern of income distribution since bargaining power declines of any income groups will be reflected in any other income group as an increase in power relations in case of the income distribution. In this regard, I descriptively show the trend in potential proxies for bargaining power measures by using unemployment rate and labor force participation ratio. Figures 8 and 9 describe the changes in these two variables over the 1995-2015 period.

Figure 8. Unemployment rate trends across country groups



Source: ILO KILM Database

Figure 9. Labor force participation rate trends across country groups



Source: World Bank, World Development Indicators

Concluding Remarks

This paper contributes to understanding the relationship between openness measures and labor share of income by descriptively analyzing the variation in data from

up to 89 countries, including OECD and non-OECD subsamples, during the 1995-2015 period.

The existing studies have mainly focused on the positive sides of the openness in trade and finance. However, the synthetic effects on the income shares have remained unchecked²⁶. The studies have generally exaggerated the positive effects of more open trade regime and financial transactions on economic growth and the efficient allocation of the resources. Therefore, making the economic system more closed to foreign transactions, it will possibly narrow the scale of economic transactions, and thereby, will decrease the production level. It is surprising, then, that numerous studies have focused on either the positive implications of an increasing degree of openness on economic growth or the benefits of an increasing scale of integration between different economies. However, one of the most crucial missing points of these studies is the exclusion of the joint effects of the liberalization phenomenon on the changing distributional issues between capital and labor. Although there are some preliminary studies discoursing this case within the frame of financial openness and/or trade liberalization, they have made brief analyses about the ways and reasons that create downward pressure on labor shares. By employing openness measures, financial development index, the interaction terms (especially between financial openness and financial development), and the bargaining power measures, researchers may be able to go beyond the existing literature and finer application for in which cases the labor's share increases in the aggregate economy and how the changes in bargaining options affect the share of income accruing to labor.

The preliminary argument depends on the fact that a greater degree of openness in financial sector without making necessary development in institutional and legal framework in finance may unambiguously work against the labor share of income by decreasing the bargaining power of labor, and thereby, increasing the threat option of capital to invest in foreign countries should widely be embraced. Moreover, the facts behind the falling labor shares and increasing liberalization process in finance and trade over the past two decades have been widely recognized both in a statistical framework and descriptive structure. Hence, the fact that the economic and structural dimensions of both openness measures and financial development are robustly and negatively related to the labor share of income are one that needs to be comprehended and broadly analyzed in the scholarly debate.

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²⁶ For more information on empirical findings please see Özdemir (2017).

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