

## Growth regimes in central and peripheral countries: an econometric analysis, 1980-2018

*Regimes de crescimento nos países centrais e periféricos:  
uma análise econométrica, 1980-2018*

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RESUMO: Exploramos diferenças estruturais nos padrões de crescimento e distribuição de renda entre países centrais e periféricos. Fornecemos dimensões que dão conta das limitações estruturais que as posições dependentes têm nas periferias e semiperiferias. Realizamos uma análise por meio de diferentes estimativas de modelos de dados em painel para 35 países centrais e periféricos para o período 1980-2018. Em particular, além de fazer as estimativas usuais dos componentes da demanda agregada, incluímos três variáveis que consideramos representativas da dinâmica que a acumulação de capital assume na periferia: a participação nas cadeias globais de valor, os níveis de estrangeirização das economias e a produtividade do trabalho diferenciais.

PALAVRAS-CHAVE: Regimes de crescimento; distribuição de renda; dependência; modelos de painel.

ABSTRACT: We explore structural differences in growth patterns and income distribution between central and peripheral countries. We provide dimensions that account for the structural limitations that dependent positions have in the peripheries and semi-peripheries. We conducted an analysis through different estimates of panel data models for 35 central and peripheral countries for the period 1980-2018. In particular, in addition to making the usual estimates of the components of aggregate demand, we include three variables that we consider representative of the dynamics that capital accumulation takes in the periphery: participation in global value chains, levels of *foreignization* of economies and labor productivity differentials.

KEYWORDS: Growth regimes; income distribution; dependency; panel models.

JEL Classification: F43; E25; C33.

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## 1. INTRODUCTION

The debate on the relationship between growth regimes and distribution patterns is already part of a long tradition in heterodox economic thought. In central countries, the development of different heterodox schools has provided compelling explanations about the ways in which capital accumulation has developed within the framework of the Keynesian-Fordist regimes after the Second War.

As from the crisis of the post-war regimes, the field of studies on growth and income distribution has developed multiple interpretations on how the Fordist-Keynesian dynamic had collapsed. At that point, there had already been several interpretations on profit squeeze (Skott, 1989; Thompson, 2018), productivity stagnation, wage over-indexation (Bowles and Boyer, 1990), dynamics of over-production/over-capital accumulation, among others (Marglin and Schor, 1991). Then, with the emergence of the neoliberal turn as a regressive form of resolution to the crisis of the seventies, the questions about growth-distribution models began to revolve around effects of productive dislocation, the flexibilization of labor market and financialization of national economies. The implications of trade and financial openness (Blecker, 2002, 2016; Hein, 2014), the effects of household debt and of the financialization of productive and non-productive enterprises on growth patterns have been studied in detail in recent years (Hein, 2012; Onaran, 2011; Stockhammer and Wildauer, 2016).

Although several works have analyzed theoretical and empirical links between growth and distribution, the studies referring to the peripheral countries have had limited development<sup>1</sup> (see, for example, Bizberg, 2018). Peripheral countries have structural features that constraint their processes of social and economic reproduction, their short-term cyclical dynamics and, naturally, their links between long-term economic growth and income distribution (Diamand, 1972; Prebisch, 1986). Nevertheless, the specific characteristics of these countries and their structural differences with capitalist centers have not attracted researchers in the field of growth and distribution.

In this article we examine the case of peripheral countries. Have they suffered the same consequences as central countries in terms of the relationship between growth and income distribution? And if there were any differences, which explanatory factors account for such differences? Throughout this article, we intend to study the dimensions inherent to the dependency that peripheral economies have on global capital and how they operate to produce differential results in the relationship between growth and income distribution. Taking into account debates on growth regimes at the national level and the implications of the globalization of trade and finance on wage-led and profit-led models, we provide a series of dimen-

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<sup>1</sup> Some exceptions to highlight are Onaran et al. (2011) and Onaran and Galanis (2014). However, none of these works take into consideration the structural characteristics of peripheral countries, which we consider relevant in this article.

sions to account for the structural limitations that the dependent positions have on the peripheries and semi-peripheries. The dependent position of Latin American countries in the world economy causes limitations on growth regimes at the national level, which are manifested in the instability of these regimes and in the constant tendency towards the prevalence of profit-led models.

In order to conduct the study, we analyze different estimations derived from panel data models for 35 central and peripheral countries within the period 1980-2018. We carried out the usual estimations of the components of aggregate demand and of the most relevant variables that account for the financialization process. In addition, we included three variables we consider to be representative of the dependent dynamic that capital accumulation acquires on the periphery: Participation in Global Value Chains, levels of *foreignization*<sup>2</sup> of the economies and labor productivity differentials.

The article is structured as follows. In the second section, here is a deep analysis of the dimensions that account for the unequal position of periphery economies and the possible empirical approaches to this position. In the third section, there is presentation of the variables used for the classification of countries into central and peripheral and we construct an indicator of degree of dependency. In the fourth section, the main results of the estimations and central insights we have obtained on their basis are presented. Finally, in the fifth section we present some final thoughts and some unresolved points which will be addressed in future works.

## 2. UNEQUAL POSITIONS IN THE GLOBAL ORDER AND STRUCTURAL CONDITIONS OF THE PERIPHERY

Capitalist world as an un-equalizing system has gone through diverse stages which have been conditioned by the actions of different hegemonic centers that were able to direct the global economic order (Wallerstein, 1974). From this perspective, the general orientation of the accumulation processes at the global level was centered in the Dutch century – linked to commerce –, the English century – related to the development of industrial capitalism –, the American century – after the Second World War – and, probably, the re-emergence of Asia as a new hegemonic center (Arrighi, 1994).

Going in depth into this interpretation helps us highlight an evident element to think about the modes of development at the national level and, particularly, their founding growth regimes. According to these perspectives, it becomes evident that the southern countries of the world – except for few exceptions – have remained in subordinated positions in the global order and have had less possibilities of national autonomous development (Amin, 1988).

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<sup>2</sup> This concept refers to the increasing weight of international capital in domestic economies. This Spanish concept does not possess an exact translation in English.

In particular, the subordinated insertion of Latin American economies in the dynamic of the capitalist centers of the world have been one of the most interesting problems for regional social sciences (Rosenmann, 2008). Since the 1950s, within the framework of development theory, structuralist approaches started to multiply in an attempt to question the pillars of the modernization theory developed by (Rostow, 1960) in the United States. According to the modernization approach, all peripheral countries – except for the communist ones – should go through a series of stages in their socioeconomic development. This would lead them to reach the social welfare levels inherent to the capitalist centers of the world. Unlike the modernization perspective, the structuralist approach of the Economic Commission for Latin America (ECLA) introduced differentiating elements between “developed” and “developing” countries, which would be then used in a more radical sense by the dependence theory (Pinto, 1973).

By 1960, with the aim of solving what was interpreted as the problems of structuralist analysis by ECLA, the dependence theory emerged. From the point of view of dependency theoreticians, the insertion of the Latin American economies in the global cycle of capital has been subordinated, until the first half of the 20th century, to the role of producing goods for consumption by the wage earners of the central countries (Marini, 1972). From this perspective, since their initial years, peripheral countries have been part of the global capital accumulation, giving rise to certain economic and social structures historically dependent and unequal (Cueva, 1998). The peripheral industrialization process that followed in Latin America and most of the countries of the Global South – characterized by the special features of the post-war period and coordinated afterwards with the globalization and transnationalization of capital – modified in an outstanding manner the role of Foreign Direct Investment (FDI) in these regions. Consequently, it caused the configuration of new productive models which were not able to break the dependent and unequal character of the global dynamic (Marini, 2007).

After the post-war period, and mainly since the 1960s and 1970s, the internationalization of capital was considered to be another consolidation element in the dependency of peripheral regions. Transnational enterprises – mainly from Europe and the U.S. – started to operate in Latin American, Asian and African countries as a mechanism of value transfer to the central countries (Cardoso and Faletto, 1979).

Dependency theoreticians have provided elements to account for the historical characteristics of peripheral capitalism. This approach brought to light that, in southern economies, the cycle of capital accumulation has been overdetermined by the participation of foreign capital in the cycle of local capital and by the way in which the local economy has been connected with it in the world economy (Marini, 2007). In the first place, direct or indirect investments of foreign capital act as one of the most important elements in gross capital formation in the peripheries, a factor that is not determinant in the center. Likewise, within the framework of late industrialization processes, Latin American countries tend to advance in the produc-

tion of consumer goods, lacking a dynamic sector of capital goods, which involves a strong import dependency at this stage of the cycle (Pinto, 1973). These characteristics, then, have an impact on the productive dynamics of southern countries: productivity differentials between foreign and local enterprises involve the displacement of small and medium-sized enterprises, which cause an accelerated concentration. As its counterpart, functional income inequality is increased by less competitive capitals as a way to “compensate” for low productivity levels. Finally, the form of production in the periphery determines a dual final demand pattern, luxury goods and necessary goods, in which popular consumption is a secondary element for the realization of value, since the export of goods and services represents a central component to boost growth, which tends to strengthen the profit-led dynamics of peripheral economies.

These elements considered by the dependency theory became more evident after the “neoliberal turn” of the sixties (Harvey, 2007). In peripheral economies, the new strategy of the internationalization of capital adopted the form of growing foreignization, by breaking the import substitution process (Frieden, 2007). From our perspective, the structural conditions imposed during the neoliberal phase of capitalism produced at least three concrete results that strengthened the dependency dynamics of peripheral countries. First, the transnationalization of capital involved a constant process of concentration and centralization of most of the productive, financial and commercial activities (Gaggero et al., 2014; Yang, 2016). This process produced an increasing division between labor productivity of big and small and medium-size enterprises (López and Barrera Insua, 2019); and, consequently, there was a relative growth in the profits of big enterprises (López and Barrera Insua, 2018). Second, within sectoral analysis, it can be observed that transnational and concentrated capitals are oriented towards those activities that have extraordinary profitability conditions in the Global South: this is, agricultural production, extractive activities and manufacturing sectors that produce wage-goods (particularly, agro-food) (López and Barrera Insua, 2018). These are the activities that have high productivity and can be inserted into the world in a competitive way (Diamand, 1972). Considering Global Value Chains (GVC), this has a main implication, since it allows us to formulate the hypothesis – that we will later confirm – that southern countries are at the end of such chains: they are either at the end of primary production (upstream) or they are assemblers and exporters with high proportions of foreign components (downstream) (Milberg and Winkler, 2013). Thus, a perspective such as the one developed by Fernández and Trevignani, (2015) facilitates thinking about a hierarchic coordination between – mainly business – actors of the center and the periphery.

For these reasons, in contrast with the usual classification of countries based on income levels, we consider it preferable to make a classification between central and peripheral countries, since it can account for those unequal positions in the world system. This point will be developed in the next section.

### 3. STRUCTURAL WEIGHT OF DEPENDENT CONDITIONS

We have selected three key variables which we consider to be indicators of the dominant/subordinate positions of the different countries: a) *foreignization* of economies; b) an indicator of the position in Global Value Chains (GVC); c) Relative Unit Labor Costs (RULC). These indicators respond to the characterization of the situation of dependency in which the countries of the global south find themselves.

First, we have included the levels of *foreignization* of economies by calculating the quotient between the Stock of Foreign Direct Investment (FDI) and the Total Capital Stock. As López and Barrera Insua (2018) pointed out, it can be expected that the levels of *foreignization* and its qualitative effects are more significant in the peripheries than in the center as we will show later on. The levels of *foreignization* are similar between countries although the qualitative differences are important. We will mention two dimensions: a) while companies that operate in the center have their activity oriented to value realization in the internal markets, the strategy of transnational companies in the peripheral economies is value realization on export markets; b) as a result of the productive delocalization process, companies from the center control productive processes in different parts of the world.

Second, we included the relation between the domestic value added in agricultural and manufacturing exports as an indicator of the position in the Global Value Chains (GVCs). This indicator enables us to account for the role that dependent economies have in the global dynamic of accumulation. In particular, peripheral economies tend to be at the end of these positions: either as exporters of primary goods or as assemblers of final goods led by the centers.

Thus, considering this variable, we find significant explanations about the role of the productive specialization that a great part of the countries of the Global South have in the current process of economic globalization. In any case, Latin American countries own a share of agricultural goods above the average compared to central countries (see Figure 1)<sup>3</sup>.

Third, we included the Relative Unit Labor Costs (RULC), calculated as the relation between average wage and average labor productivity of each country with respect to such relation for the United States. We expect that those countries with high levels of ULC (near to or higher than the U.S.) are central while those countries with lower levels of ULC are among the peripheral countries.

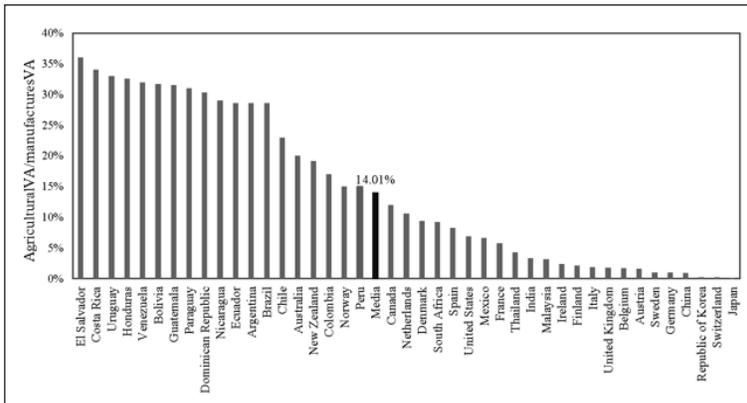
We consider the export strategy to be different between the centers and the peripheries. While in the center the exporting companies seek to increase productivity

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<sup>3</sup> Naturally, by comparing the peripheries, we find that in the countries of Asia the contribution of manufacturing exports in value added is predominant as opposed to Latin American countries. In any case, the key point here is that while most of the central countries have balanced export contributions to the value of both branches, the peripheral and semi-peripheral countries have an imbalance due to the international division of labor that has not been substantially modified, with the exception of China.

and technology to achieve higher levels of competition, in the periphery the search for low wage costs to obtain greater international competitiveness continues to be the guideline. This leads peripheral and semi-peripheral countries to be at the end of value chains, while central countries are located in intermediate positions.

Figure 1: Relationship between domestic value added in exports of agricultural goods and domestic value added in manufacturing exports, 2018, in percentages



Source: OECD

### 3.1 Synthetic Indicator of Dependency

Since we stood out these three variables for the classification of our data panel, we have to consider the possibility that some of the countries of the Global South do not present the expected results in some of these indicators. This should be particularly expected for the BRICS (China, India, Brazil, Russia and South Africa) and, maybe, for some economies of Southeast Asia. The development of their productive forces enables their conception more as semi-peripheral than as merely peripheral (Yoo, 1998), even if they are subordinated in the global order. However, we considered them within the non-central countries because, as we will see in the results of our estimations, they present differential dynamics regarding the growth and distribution processes of the centers, and they produce results qualitatively similar to the peripheral countries regarding the main variables of interest.

In order to achieve an integral perspective of the dependency process based on the mentioned variables, we constructed a Synthetic Indicator of Dependency (SID). This indicator includes the *foreignization* of the economy (EX) related to the degree of financialization (FG), the participation of primary goods exports in the value added and the relative unit labor costs (productivity-adjusted labor costs). All these variables are weighted by the participation of domestic GDP in the world GDP. Formally,

$$SID_i = \varphi_1 \left( \frac{EX}{FG} \right)_i + \varphi_2 EXPO_i + \varphi_3 (RULC_i)^{-1} \quad (1)$$

The results for the different countries of the panel are summarized in the following map:

Figure 2: Synthetic dependency indicator for the different countries, 2018

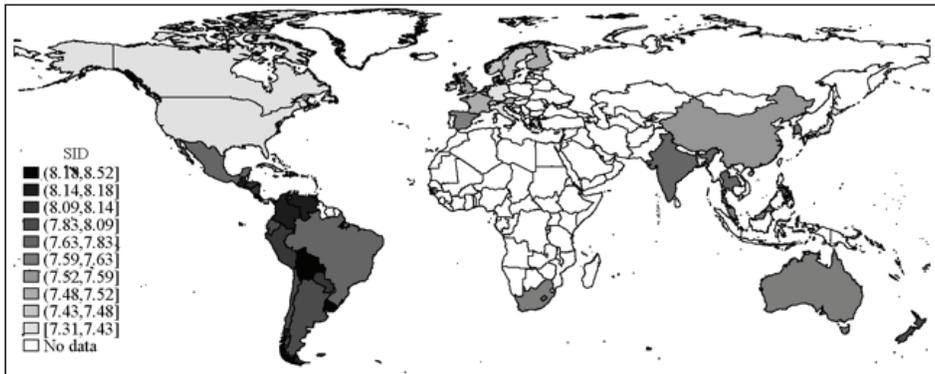


Figure 2 shows that Latin America, Asia and Africa present a higher degree of dependency than countries such as the U.S., Canada and Western Europe.

#### 4. AN EMPIRICAL APPROACH TO GROWTH MODELS AT A NATIONAL SCALE FOR CENTERS AND PERIPHERIES

The point of reference for the empirical analysis is the Bhaduri and Marglin (1990) growth model to which we incorporate the effects of *foreignization*, relative unit labor costs and the position in GVCon the different components of the aggregate demand. We use a panel approach, as many similar studies do. For instance, Hartwig (2014) used a panel of 31 OECD countries for the period 1970-2011 and found a wage led demand regime. Kiefer and Rada (2015) estimate demand and distribution equations for a panel of OECD countries together with control variables that affect income distribution concluding that demand is led by profits. Stockhammer and Wildauer (2016) incorporate private debt and stock prices in a Badhuri-Marglin model by means of an econometric analysis based on a sample of 18 OECD economies for the period 1980-2013. They find evidence in favor of a wage-led demand regime. Finally, de Oliveira and Souza (2021) estimate a panel-data model of the capital stock and the rate of capacity utilization for 61 countries over the period 1995-2014. They found wage-led growth regimes for developed countries, while most developing countries exhibited a profit-led growth regime. In Latin American countries, the causality channel is mainly related to the international trade channel, while in other developing countries it is related to domestic investment function.

Most of these studies have been carried out for central economies, giving little consideration to the structural characteristics of peripheral economies. As we have seen in the previous section, we believe it is essential to take these dimensions into account.

## 4.1 Data and Estimation Strategy

Our dataset covers 35 central and peripheral economies for the period 1980-2018.

We classified countries into three different groups (center, periphery and semi-periphery) based on the SID described in the previous section. First, countries with an SID below the median were considered part of the center. Then, the periphery was formed by those countries with an SID above the median of the remaining subgroup and the semi-periphery by those with an SID below the median value<sup>4</sup>.

Variable's definitions, data sources and unit of measurement for each one is provided in Table 1.

Table 1: Source and variables

	<b>Variable</b>	<b>Source</b>	<b>Unit</b>
Y	GDP at market prices	WDI and FMI	USD 2011
C	Households and NPISHs Final consumption expenditure	WDI and FMI	USD 2011
I	Gross fixed capital formation	WDI and FMI	USD 2011
X	Exports of goods and services	WDI and COMTRADE	USD 2011
M	Imports of goods and services	WDI and COMTRADE	USD 2011
Y*	GDP of the 10 countries with the highest imports. Average ranking	WDI and FMI	USD 2011
WS	Adjusted wage share, total economy	AMECO, PWT 9.1 and National Accounts	% GDP
RER	Real effective exchange rate	BIS – AMECO	2010=100
r	Real interest effective rate	AMECO, OECD (MEI), BIS and Central Banks	%
DH	Households and NPISHs debt, all liabilities	BIS	% GDP
GF	Financial globalization	BIS and National Accounts	% GDP
EX	Foreignization	PWT 9.1 and UNCTAD	% capital stock
RULC	Relative unit labor costs	OIT and PWT 9.1	Regarding USA
EXPO	Ratio domestic value-added in agricultural exports to domestic value added in industrial exports	TiVA-OECD and COMTRADE	Ratio

As for the static panel estimators, the FD is preferable to the estimator that arises from the within groups transformation of panel data, because although both

<sup>4</sup> The countries included in the empirical study are: Central: Australia, Austria, Canada, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, England, United States. Semi-periphery: Argentina, Brazil, Chile, China, India, Malaysia, Mexico, South Korea, South Africa, Thailand. Periphery: Bolivia, Colombia, Costa Rica, Ecuador, Honduras, Nicaragua, Paraguay, Peru, Uruguay, Venezuela.

estimators allow for country fixed effects and are consistent when T grows relative to N (Rangel Jiménez, 2012), the FD estimator is more efficient in the context of non-stationary data.

Regarding dynamic panel data estimators, to address possible autocorrelation problems present in these specifications, we apply the Anderson and Hsiao (1982) (A&H) estimator, as well as restricted versions of the Arellano and Bond (1991) one-step estimator. Concerning the difference estimators of Arellano and Bond (1991) and system GMM of Blundell and Bond (1998), the set of tools needed to address the correlation of the lagged dependent variable with the error term exhibits a quadratic increase in T and, therefore, these methods become infeasible when T grows relative to N (Nickell, 1981). This is the case of dataset used in this article. Given these characteristics of the data set, the one-step estimator of Arellano and Bond (1991) will be more efficient and produce less bias than the system GMM estimator. Finally, as Baltagi (2013) has presented, the non-stationarity of the data set is also a reason not to use the system GMM estimator, since it requires mean-stationary series in levels, which is not met in the worked data set.

We started the empirical contrast with an analysis of the stationarity properties of the series. For that purpose, we applied three panel data unit root tests: Im et al. (2003), Fisher-ADF (Choi, 2001) and Fisher-Phillips and Perron (Choi, 2001). Results indicate that most of the series follow stationary stochastic processes I(0) in first difference; i.e., they are integrated of order one I(1) in levels (see Appendix, Table 9). We carried out the static panel first difference (FD) estimator and in relation to dynamic panel specifications, we applied the difference GMM estimator as proposed by Arellano and Bond (1991) and the Anderson and Hsiao (1982) estimator (AH) to address potential problems of autocorrelation in dynamic specifications and to check robustness. In these last cases, the set of lags used as instruments to handle the correlation of the lagged dependent variable and the error term has been limited (Roodman, 2009). Specifically, the number of lags of the independent variable for instrumenting  $\ln C_{it}, \ln I_{it}, \ln X_{it}, \ln M_{it}$  was restricted to two<sup>5</sup>.

## 4.2 Results

### *Consumption*

The consumption function has been estimated in the following way:

$$\ln C_{it} = \alpha \ln C_{it-1} + \beta_1 \ln Y_{it} + \beta_2 \ln WS_{it} + \omega F_{it} + \gamma DC + \mu_i + \nu_{it} \quad (2)$$

Where F and DC are two vectors of variables that incorporate the dimensions of financialization and dependent conditions, respectively, and i are country fixed

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<sup>5</sup> One issue to take into account is that there may be common shocks across countries and differential impacts of these shocks that are not discriminated in this model from those shocks specific to the countries. However, we consider that, given that the estimators we use control for autoregression adequately, this does not represent major problems for the specification strategy of the model.

effects and  $v_{it}$  is the residual term. The results of the estimations under different specifications are summarized in Table 2 (see Appendix). As we mentioned, the number of instruments in the dynamic specifications is restricted to two lags.

The over-identification tests for both estimators GMM and A&H indicate that the model is correctly identified, since it is not possible to reject the null hypothesis of validity of the instruments at 5% significance. However, this result is rather weak, especially in the case of separate samples, where it is possible to reject the null hypothesis at 10% significance.

The main findings are summarized as follows: on the one hand, wage share is statistically significant and positive in all specifications. The size of the effect is larger, on average, for central countries than for those peripheral and semi-peripheral countries and these results are robust in all estimations; second, financialization, measured as the sum of foreign assets and liabilities in relation to GDP, is significant and negative, being the size of the effect larger for peripheral countries in absolute terms. This result is also robust in the different estimated specifications.

The significance of wage share, as well as its sign, are maintained when removing the dependency variables, and the results are in line with what is found in the empirical literature analyzing demand-led growth. However, differences in the magnitude of the coefficients are observed, especially for the group of peripheral and semi-peripheral countries. In particular, we note that the effect of wage share on consumption is smaller when variables related to the dependent condition of the countries are not controlled for than in the case where they are not incorporated.

Regarding household debt and the non-financial business sector, the obtained results account for its relevance only in central countries, where it has a positive and statistically significant effect (similar to Stockhammer and Wildauer, 2016). Finally, as regards the *foreignization* variable, the result is significant for most of the estimators and they present inverse signs for the center and the peripheries.

### **Investment**

The investment function has been estimated in the following way:

$$\ln I_{it} = \alpha \ln I_{it-1} + \beta_1 \ln Y_{it} + \beta_2 r_{it} + \beta_3 \ln WS_{it} + \omega F_{it} + \gamma DC + v_i + v_{it} \quad (3)$$

where  $v_i$  are country fixed effects and it is the residual term. The results of the estimations under different specifications are summarized in Table 3. Again, the number of instruments in the dynamic specifications is restricted to two lags.

According to the results of the over-identification tests, the instruments are valid for both dynamic estimators in the different specifications (it is not possible to reject the null hypothesis at 10% significance).

The results reported in Table 3 indicate the following. The national income has a positive and significant effect on investment, with an elasticity close to one, which is a robust result in the different estimated models. Regarding wage share, results show a negative and significant sign for the whole panel, in line with the prediction made by a good part of the economic literature. These results hold for

the case of the central countries as well as for the peripheral and semi-peripheral countries. Here, the size of absolute effect is substantially higher. The real interest rate is relevant and affects investment negatively in all specifications. However, the size of the effect is larger for central countries. The sign and significance of the coefficients are maintained when not controlling for the variables related to the dependency status of the countries. However, as in the case of consumption, the magnitude of the coefficients is modified, reducing the differences found for the subsamples of central and peripheral countries.

Financial globalization affects gross fixed capital formation negatively. This result persists across the different specifications both in central and peripheral countries, being the size of the effect slightly larger for the latter. Finally, the foreignization of the economy is negative and statistically significant for the whole panel. This result does not persist in the case of central countries since the coefficient for this variable is not significant.

### *External Sector*

For the external sector, we estimated export and import functions separately, as it is shown in equations (4) and (5).

$$\ln X_{it} = \alpha \ln X_{it-1} + \beta_1 + \ln Y_{it}^* + \beta_2 \ln ER_{it} + \beta_3 \ln WS_{it} + \omega F_{it} + \gamma DC + \rho_i + \varepsilon_{it} \quad (4)$$

$$\ln M_{it} = \alpha \ln M_{it-1} + \beta_1 + \ln Y_{it}^* + \beta_2 \ln ER_{it} + \beta_3 \ln WS_{it} + \omega F_{it} + \gamma DC + \tau_i + \varepsilon_{it} \quad (5)$$

Where  $\rho_i$  and  $\tau_i$  are country fixed effects and  $\varepsilon_{it}$  and  $\nu_{it}$  are residual terms, in export and import functions, respectively.

In the dynamic specifications it is not possible to reject the null hypothesis of validity of the instruments in the over-identification tests. However, the result is weak for the group of peripheral and semi-peripheral countries, since it rejects 10% significance (see Table 4 in the Appendix).

As expected, foreign demand is positive and statistically significant, and the output elasticity is above one in all specifications. The effect of wage share on exports is negative and its size is larger in peripheral economies. Regarding real exchange rates, the sign of the coefficient indicates that the appreciation of domestic currency has a negative impact on exports. Financialization affects exports negatively. This result persists across different specifications and groups of countries. In general terms, these results hold when not controlling for the dependency-related variables. In all cases, the magnitude of the real exchange rate coefficient is smaller (in absolute values) when controlling for the productivity and GVC participation variables. The inclusion of the foreignization and financialization variables does not significantly modify the results.

Foreignization is a relevant variable only for the group of countries of the periphery. A positive sign has been obtained for the effect of foreignization on exports. The relation between domestic value added in agricultural and manufacturing exports is a relevant variable for total exports which has positive effects. The

effect is greater in peripheral and semi-peripheral economies than in central economies. Finally, the Relative Unitary Labor Costs are positive and statistically significant for the peripheral and semi-peripheral economies but not for the central ones.

The GMM estimator overcomes the test of over-identification at 5% significance (not so at 10% significance). While for the A&H estimator, the over-identification tests indicate endogeneity problems with the instruments.

The output elasticity of imports results positive and above one; a robust result across the different specifications. The wage share is positive and statistically significant for the FD estimator, but not for dynamic estimators (see Table 5 in the Appendix). The size of the effect in absolute terms is greater than in the periphery. The Real Exchange Rate indicates that an appreciation of domestic money has a positive impact on imports. The significance and sign of these coefficients is maintained if we do not control for the dependency-related variables. However, the effect of the real exchange rate on imports is smaller in absolute terms when foreign ownership and GVC participation are included in the model.

Financialization has a positive effect on imports, but its size is small. Regarding the variable EXPO, the effect is positive and statistically significant both for the whole panel and for different country groups. The magnitude of the effect is significantly larger in peripheral countries than in central ones. As for the RULC, neither in the center nor in the peripheries have significant differential effects been identified.

### *Demand regime and Growth Contribution*

We discuss here the results related to demand regimes (for data details see Table 6 in the Appendix). It is based on the first difference estimator of the aggregate demand components. As in Stockhammer and Wildauer (2016), the marginal effect of an increase in the wage share has been calculated as follows:

$$\frac{dY}{dWS} * \frac{1}{Y} = \beta_{c,ws} \left( \frac{\theta C}{Y} \right) \frac{1}{\theta WS} + \beta_{i,ws} \left( \frac{\theta I}{Y} \right) \frac{1}{\theta WS} + \beta_{x,ws} \left( \frac{\theta X}{Y} \right) \frac{1}{\theta WS} + \beta_{m,ws} \left( \frac{\theta M}{Y} \right) \frac{1}{\theta WS} \quad (6)$$

where  $\beta_{j,ws}$  with  $j = c, i, x, m_{c,ws}$ , is the estimated elasticity of consumption, investment, exports and imports respectively, with respect to wage share, and is a weighting factor based on the income share of country  $i$  in the world income. In this way,  $\beta_j Y$  together with  $j = c, i, x, m_{c,ws}$ , represent the income weighted average of the ratio of consumption, investment, exports and imports to GDP respectively, and similarly,  $\theta WS$  represents the income weighted average of the wage share. The effect of an increase of one percentage point on the wage share is shown separately for consumption, investment and net exports of imports. Then, the effect on aggregate demand is calculated as the sum of the latter.

In the case of the whole panel, we have found a demand regime led by wages, since an increase of one percentage point in the wage share has a positive effect on the final demand. As expected, this result persists in the central countries but not

in the peripheral and semi-peripheral countries. This result is in line with the findings of other research, for example Onaran and Galanis (2014), who have found wage-led regimes in European OECD countries and profit-led regimes in peripheral economies.

In peripheral and semi-peripheral countries, where demand is led by profits, we have found a negative effect of an increase of one percentage point of the wage share on investment. Also, we have found that the effect on net exports of imports is higher (in absolute value) in peripheral and semi-peripheral countries than in the center. These results are in line with a major importance of primary products in these countries' exports and with levels of foreignization which are not related with financial activity or financialization.

In addition, we can observe to what extent explanatory variables, especially those linked to global dependence and the financialization process can account for the changes in consumption and investment in the 2010-2018 period. The results are shown for the complete panel and for the three groups of countries classified as center, periphery and semi-periphery. In the observed period, consumption and investment grew more in the peripheries than in the center, as can be observed. On another hand, we can observe the growth of consumption, investment and net exports respectively, which are not explained for the growth of product. In the case of investment, we find that the expansion in the gross capital formation is explained mainly by the economic growth (as it was to be expected in a recovering worldwide economy). In the case of net exports, the growth which is not explained by the product is positive in all cases, although it is significantly higher in the case of central countries<sup>6</sup>.

Changes in the wage share do not explain a significant part of the growth of the components of the aggregate demand. In every case, the contributions to the growth are inferior to 1% in absolute value. Inasmuch as the wage share has a negative variation in the peripheries and a positive one in the center during the analyzed period, the contributions about consumption and investment show the opposite sign to the one found for the elasticities in consumption and investment. In relation to the variables that give an account of dependent conditions, the contribution of the foreignization to growth consumption, investment and net exports in peripheral countries is negative, while it has not been relevant for central countries in the analyzed period. At the same time, the unitary relative labor costs do not explain the growth of the net exports in the center, although they have had a negative contribution in the peripheral countries (greater effect in absolute value in the periphery with respect to the semi-periphery).

The relation between agricultural value added and the manufacturing value added contained in the exports brought a positive contribution in the center and

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<sup>6</sup> For more details, see Table 6 in the Appendix.

in the semi-periphery (although highly lower in the last), but the contribution in the periphery resulted to be negative. Finally, in relation to the variables linked to the process of financialization of the economies, we find that the debt in the households had a positive contribution to the growth of consumption in the center (3%), while in the peripheries it did not contribute to the growth of this component of the aggregate demand. Financial globalization (measured by the sum of external assets and liabilities in relation to the GDP) contributed negatively in investment and in net exports, both in peripheral countries and in central ones, but it does not explain the growth in consumption in the former<sup>7</sup>.

These results illustrate that the considered variables (*foreignization*, positions in international commerce, relative unit labor costs, debt and financial globalization) can explain the different performances among the groups of countries.

## 5. CONCLUDING REMARKS

In this job we analyzed the role of functional income distribution, the financialization and the structural conditions of dependency in consumption, investment and foreign trade (exports and imports). In the econometric analysis we incorporated 35 countries, central and peripheral from different world regions, with data for the period 1980-2018. Among the results found, we highlight the existence of a statistically significant and robust relation of the participation of wages in the national income about consumption, investment and exports and imports. Qualitatively, we find differences among the countries in the center and the peripheries, especially in the case of investment. While an increment of the participation of wages in the income has a slightly negative effect on the investment of central countries, for the peripheral and semi-peripheral ones, the magnitude of this effect is sensitively stronger.

In relation to the financialization of consumption, approximated by the household debt, we find positive and statistically significant effects just for the case of central countries; in the periphery, this variable does not result to be relevant (statistically speaking) to explain consumption. On its part, the financialization indicator measured as the sum of external assets and liabilities in relation to the PBI reveals a negative and statistically significant effect on consumption, investment and exports. The size of the effect seems to be higher in absolute terms in peripheral countries than in central ones.

The main contribution of the text was aimed to top up these results in relation to the structural differential conditions of the economies of the center, the periph-

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<sup>7</sup> Contributions to growth of wage share, variables linked to the dependency in the peripheries and variables associated to the financialization can be seen in Table 7 in the Appendix in rows 16, 17, 18; and they also summarize what has been previously described.

ery and the semi-periphery. As it has been shown throughout the text, the results are sensitive to the conditions of international insertion of the countries in terms of the positions in the global value chains and the levels of *foreignization* of the economies. We have not found conclusive results as regards differentials in the relative unit labor costs (competitiveness indicator). We consider that this study is a contribution to differentiate the growth regimes not only for the income distribution and financialization, but also to have consideration about the power asymmetry within the global capitalist order.

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# APPENDIX

Table 2: Results for consumption function

	Consumption								
	Panel			Center			Periphery and semi-periphery		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FD	GMM	A&H	FD	GMM	A&H	FD	GMM	A&H	
lnC <sub>t-1</sub>		0.761*** (0.059)	0.743*** (0.055)		0.777*** (0.060)	0.716*** (0.083)		0.790*** (0.054)	0.656*** (0.088)
lnY	0.731*** (0.016)	0.581*** (0.068)	0.501*** (0.059)	0.721*** (0.028)	0.541*** (0.063)	0.556** (0.110)	0.844*** (0.019)	0.601*** (0.064)	0.599*** (0.098)
lnWS	0.116** (0.014)	0.132** (0.042)	0.098* (0.041)	0.171*** (0.032)	0.193** (0.061)	0.126* (0.063)	0.086** (0.012)	0.080** (0.037)	0.076** (0.051)
lnGF	-0.017*** (0.004)	-0.036*** (0.007)	-0.015* (0.009)	-0.007** (0.006)	-0.021*** (0.004)	-0.016* (0.008)	-0.025*** (0.008)	-0.039** (0.015)	-0.053 (0.036)
lnDH	0.095** (0.091)	0.017** (0.126)	0.012 (0.031)	0.126*** (0.091)	0.096** (0.032)	0.091* (0.063)	0.036 (0.096)	0.028 (0.098)	0.012 (0.089)
lnEX	0.018** (0.008)	0.014** (0.012)	0.013* (0.016)	0.009** (0.003)	0.007** (0.004)	0.016** (0.015)	-0.015** (0.006)	-0.011* (0.009)	-0.090 (0.072)
Observations	1,360	1,360	1,360	741	741	741	619	619	619
R-squared	0.899			0.796			0.778		
Number of id		35	35		19	19		16	16
Sargan <i>p-value</i>		0.106	0.103		0.098	0.091		0.096	0.090
Hansen <i>p-value</i>		0.133	0.121		0.109	0.106		0.101	0.097
AR(2) <i>p-value</i>		0.496			0.493			0.401	

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Heteroscedasticity and autocorrelation robust standard errors in parentheses.

FD refers to the first difference estimator, GMM to the Arellano and Bond (1991) estimator and A&H is the Anderson and Hsiao (1981, 1982) estimator. Sargan and Hansen are two tests for overidentification and AR (2) is the autocorrelation Arellano and Bond (1991) test. Estimates run using STATA 15.

Table 3: Results for investment function

	Investment								
	Panel			Center			Periphery and semi-periphery		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	FD	GMM	A&H	FD	GMM	A&H	FD	GMM	A&H
lnI <sub>t-1</sub>		0.866*** (0.023)	0.892*** (0.057)		0.829*** (0.036)	0.876*** (0.059)		0.889*** (0.062)	0.791* (0.101)
lnY	1.991*** (0.176)	1.969*** (0.192)	2.041*** (0.116)	1.872*** (0.118)	1.998*** (0.148)	2.020*** (0.214)	1.983*** (0.101)	2.057*** (0.173)	2.051** (0.142)
lnWS	-0.135*** (0.064)	-0.126** (0.032)	-0.150** (0.059)	-0.048** (0.016)	-0.073*** (0.023)	-0.041* (0.015)	-0.188*** (0.073)	-0.189** (0.041)	-0.192** (0.043)
r	-0.185** (0.051)	-0.123** (0.059)	-0.112* (0.063)	-0.308*** (0.098)	-0.213** (0.086)	-0.206* (0.079)	-0.086** (0.046)	-0.081* (0.039)	0.077 (0.041)
lnGF	-0.216** (0.051)	-0.150** (0.029)	-0.132* (0.026)	-0.153*** (0.089)	-0.131*** (0.016)	-0.128 (0.061)	-0.231*** (0.071)	-0.193* (0.066)	-0.281* (0.142)
lnEX	-0.026** (0.016)	-0.013** (0.011)	-0.012* (0.012)	-0.006* (0.003)	-0.002 (0.004)	0.057 (0.068)	-0.133*** (0.013)	-0.101** (0.013)	0.178* (0.136)
Observations	1,301	1,301	1,301	703	703	703	598	598	598
R-squared	0.894			0.691			0.663		
Number of id		35	35		19	19		16	16
Sargan <i>p-value</i>		0.331	0.279		0.297	0.209		0.203	0.111
Hansen <i>p-value</i>		0.312	0.261		0.241	0.201		0.211	0.119
AR(2) <i>p-value</i>		0.626			0.412			0.351	

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Heteroscedasticity and autocorrelation robust standard errors in parentheses.

FD refers to the first difference estimator, GMM to the Arellano and Bond (1991) estimator and A&H is the Anderson and Hsiao (1981, 1982) estimator. Sargan and Hansen are two tests for overidentification and AR (2) is the autocorrelation Arellano and Bond (1991) test. Estimates run using STATA 15.

Table 4: Results for exports function

	Exports									
	Panel			Center			Periphery and semi-periphery			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
	FD	GMM	A&H	FD	GMM	A&H	FD	GMM	A&H	
lnX <sub>t-1</sub>		0.929*** (0.132)	0.916*** (0.101)		0.842*** (0.106)	0.831*** (0.116)		0.928*** (0.099)	0.890** (0.114)	
lnY*	1.531*** (0.119)	1.691*** (0.142)	1.706*** (0.151)	1.791*** (0.115)	2.091*** (0.203)	1.854** (0.239)	1.571*** (0.126)	2.003*** (0.187)	1.321** (0.198)	
lnWS	-0.058** (0.019)	-0.079*** (0.042)	-0.099 (0.051)	-0.033* (0.017)	-0.051* (0.029)	-0.076 (0.061)	-0.081** (0.041)	-0.092** (0.053)	-0.109 (0.106)	
lnRER	-0.088** (0.026)	-0.121** (0.069)	-0.139** (0.096)	-0.131*** (0.052)	-0.199*** (0.066)	-0.131 (0.105)	-0.049** (0.028)	-0.029** (0.016)	-0.012 (0.011)	
lnGF	-0.041** (0.016)	-0.052** (0.023)	0.058* (0.023)	-0.016** (0.011)	-0.026** (0.017)	-0.015 (0.013)	-0.036** (0.021)	-0.038** (0.016)	-0.097 (0.068)	
lnEX	0.029* (0.018)	-0.053 (0.019)	-0.028 (0.016)	0.009 (0.005)	0.006 (0.005)	-0.016 (0.013)	0.097** (0.039)	0.099** (0.055)	0.083 (0.067)	
lnRULC	-0.098** (0.043)	-0.064* (0.033)	-0.100 (0.081)	-0.044* (0.036)	-0.036 (0.031)	-0.038 (0.027)	-0.088** (0.044)	0.067** (0.026)	0.059** (0.042)	
lnEXPO	0.285*** (0.127)	0.193*** (0.109)	0.096 (0.091)	0.186*** (0.117)	0.171*** (0.107)	0.169 (0.128)	0.316*** (0.291)	0.221*** (0.106)	0.249* (0.196)	
Observations	1,321	1,321	1,321	745	745	745	576	576	576	
R-squared	0.786			0.771			0.693			
Number of id		34	34		19	19		15	15	
Sargan <i>p-value</i>		0.291	0.219		0.171	0.148		0.098	0.089	
Hansen <i>p-value</i>		0.319	0.299		0.197	0.192		0.108	0.107	
AR(2) <i>p-value</i>		0.172			0.140			0.136		

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Heteroscedasticity and autocorrelation robust standard errors in parentheses.

Venezuela was omitted from the calculation since there is no information on GVC. FD refers to the first difference estimator, GMM to the Arellano and Bond (1991) estimator and A&H is the Anderson and Hsiao (1981, 1982) estimator. Sargan and Hansen are two tests for overidentification and AR (2) is the autocorrelation Arellano and Bond (1991) test. Estimates run using STATA 15.

Table 5: Results for imports function

	Imports								
	Panel			Center			Periphery and semi-periphery		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	FD	GMM	A&H	FD	GMM	A&H	FD	GMM	A&H
lnM <sub>t-1</sub>		0.696*** (0.129)	0.687*** (0.188)		0.519*** (0.138)	0.521** (0.191)		0.526*** (0.103)	0.618** (0.189)
lnY	1.421*** (0.123)	1.462*** (0.129)	1.398** (0.201)	1.283*** (0.074)	1.276*** (0.101)	1.142** (0.266)	1.531*** (0.144)	1.479*** (0.101)	1.387** (0.222)
lnWS	0.066** (0.045)	0.083* (0.041)	0.081 (0.059)	0.033** (0.017)	0.049* (0.027)	0.043 (0.019)	0.097** (0.031)	0.099** (0.091)	0.112* (0.109)
lnRER	0.078*** (0.033)	0.069** (0.066)	0.083 (0.071)	0.091** (0.032)	0.077** (0.069)	-0.070* (0.063)	0.040*** (0.029)	0.038* (0.028)	0.051 (0.042)
lnGF	0.139*** (0.063)	0.083** (0.051)	0.089 (0.079)	0.031** (0.012)	0.017** (0.015)	0.020 (0.019)	0.159*** (0.099)	0.133* (0.118)	0.126** (0.101)
lnEX	0.215** (0.101)	0.206** (0.104)	0.212** (0.101)	0.116* (0.071)	0.103** (0.096)	0.103 (0.077)	0.329** (0.097)	0.317*** (0.081)	0.323** (0.116)
lnRULC	0.091* (0.081)	0.076* (0.043)	0.071 (0.069)	0.039* (0.031)	0.051 (0.043)	0.069 (0.067)	0.088* (0.077)	0.081* (0.069)	0.096 (0.091)
lnEXPO	0.326*** (0.106)	0.314*** (0.103)	0.269** (0.128)	0.139*** (0.118)	0.121** (0.102)	0.136** (0.117)	0.346*** (0.109)	0.363*** (0.191)	0.301** (0.116)
Observations	1,321	1,321	1,321	745	745	745	576	576	576
R-squared	0.823			0.813			0.745		
Number of id		34	34		19	19		15	15
Sargan <i>p-value</i>		0.099	0.086		0.073	0.058		0.061	0.042
Hansen <i>p-value</i>		0.088	0.073		0.068	0.070		0.065	0.059
AR(2) <i>p-value</i>		0.149			0.139			0.121	

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Heteroscedasticity and autocorrelation robust standard errors in parentheses.

Venezuela was omitted from the calculation since there is no information on GVC. FD refers to the first difference estimator, GMM to the Arellano and Bond (1991) estimator and A&H is the Anderson and Hsiao (1981, 1982) estimator. Sargan and Hansen are two tests for overidentification and AR (2) is the autocorrelation Arellano and Bond (1991) test. Estimates run using STATA 15.

Table 6: Marginal effect of a one percentage point increase in wage share on excess final demand

	Panel	Center	Periphery	Semi-periphery
C	0.106	0.158	0.104	0.054
I	-0.049	-0.016	-0.071	-0.102
X+M	-0.039	-0.020	-0.057	-0.076
Y	0.018	0.122	-0.024	-0.123
Financialization	274%	352%	107%	121%
Foreignization	8%	9%	6%	2%
RULC	13%	26%	8%	12%
VAag/VAind	10%	5%	24%	4%

Notes: The calculations of the effects on the final demand are based on the FD estimators, averages 1980-2018. The elasticities were transformed to marginal effects using the participation in the GDP as a weight. The average financialization of the semi-periphery excludes China. Estimates run using STATA 15.

Table 7: Growth contributions

	Change 2010-2018	Panel	Center	Periphery	Semi-periphery
Aggregate	1 $\Delta C$	26%	14%	30%	52%
	2 $\Delta I$	27%	13%	5%	35%
	$\Delta (X-M)$	-29%	-51%	-13%	-7%
	3 $\Delta Y$	26%	17%	29%	45%
Consumption	4 $\Delta C - \beta_Y \Delta Y$	7%	1%	6%	14%
	5 $\beta_{ws} \Delta WS$	-0.2%	0.2%	-0.5%	-0.1%
	6 $\beta_{EX} \Delta EX$	0.9%	0.1%	-1.6%	-0.6%
	7 $\beta_F \Delta F$	3.7%	3.1%	-0.2%	-0.9%
Investment	8 $\Delta I - \beta_Y \Delta Y - \beta_r \Delta r$	-25%	-20%	-52%	-54%
	9 $\beta_{ws} \Delta WS$	0.2%	-0.1%	1.0%	0.1%
	10 $\beta_{EX} \Delta EX$	-1.3%	0.0%	-14.1%	-5.4%
	11 $\beta_{GF} \Delta GF$	-4.3%	-3.6%	-2.2%	-8.6%
Expo-Imp	12 $\beta_Y \Delta Y^* - \beta_Y \Delta Y$	2.9%	6.4%	0.2%	1.4%
	13 $\beta_{ws} \Delta WS$	0.2%	-0.1%	1.0%	0.1%
	14 $\beta_{DC} \Delta DC$	-13%	0%	-29%	-11%
	15 $\beta_{GF} \Delta GF$	-3.6%	-1.1%	-1.9%	-7.2%
GDP	16 $\beta_{ws} \Delta WS$	0.2%	0.1%	1.5%	0.2%
	17 $\beta_{DC} \Delta DC$	-13.6%	0.3%	-44.9%	-17.3%
	18 $\beta_F \Delta F$	-4.2%	-1.6%	-4.4%	-16.7%

Notes: The coefficients correspond to FD estimator in tables (2) to (5).  $\beta_F \Delta F = \beta_{GF} \Delta GF + \beta_{DH} \Delta DH$  y  $\beta_{DC} \Delta DC = \beta_{EX} \Delta EX + \beta_{RULC} \Delta RULC + \beta_{EXPO} \Delta EXPO$ .

Table 8: Descriptive statistics

Variable	N	Mean	SD	Min	Max	Unit
Y	1365	1005.99	2142.31	4.69	17856.48	Billions (USD)
C	1365	581.19	1359.78	2.39	12388.55	Billions (USD)
I	1365	282.62	791.74	0.67	12388.55	Billions (USD)
X	1365	213.69	346.55	0.46	2626.65	Billions (USD)
M	1365	209.77	374.07	1.26	3203.78	Billions (USD)
Y*	1365	35190.46	16933.20	17379.22	82709.21	Billions (USD)
WS	1365	0.57	0.09	0.31	0.76	%GDP
r	1301	0.27	3.42	-0.98	93.94	%
DH	1360	91.76	63.34	10.51	347.48	%GDP
RER	1361	101.50	78.94	12.41	512.90	2010=100
GF	1365	2.66	3.91	0.16	33.06	%GDP
EX	1365	0.06	0.08	0.00	0.86	% capital stock
EXPO	1321	0.11	0.09	0.01	0.39	Ratio
RULC	1363	0.13	0.12	0.02	1.13	According to USA

Table 9: Unit root test

Variable	Im, Pesaran and Shin <sup>1</sup>		Fisher ADF <sup>2</sup>		Fisher Phillips and Perron <sup>3</sup>		I(d)
	no trend	trend	no trend	trend	no trend	trend	
Y	1.0000	0.6693	1.0000	0.3585	1.0000	0.9584	I(1)
WS	0.7885	0.5955	0.4857	0.4858	0.6258	0.6125	I(1)
Y*	0.6325	1.0000	0.8965	1.0000	0.9325	1.0000	I(1)
C	1.0000	0.2854	1.0000	0.2587	1.0000	1.0000	I(1)
I	1.0000	0.8172	0.9999	0.1125	1.0000	0.8752	I(1)
X	0.9991	0.9658	0.9999	1.0000	1.0000	1.0000	I(1)
M	1.0000	0.2158	1.0000	0.1115	1.0000	0.1984	I(1)
RER	0.0000	0.0021	0.0000	0.0006	0.0000	0.0761	I(0)
r	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	I(0)
RULC	0.9586	0.9589	0.9586	0.9548	0.9518	0.9651	I(1)
EX	0.4586	0.9436	0.8651	0.9961	0.6351	0.9993	I(1)
EXPO	0.5358	0.6151	0.6583	0.9932	0.8591	1.0000	I(1)
GF	0.1412	0.1506	0.2731	0.9542	0.1452	0.6702	I(1)
DH	0.3521	0.1358	0.5326	0.4891	0.6531	0.8641	I(1)
$\Delta Y$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta WS$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta Y^*$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta C$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta I$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta X$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta M$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)

$\Delta RER$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta r$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta RULC$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta EX$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta EXPO$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta GF$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)
$\Delta DH$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	I(0)

Notes\*: he tests are performed on the logarithmic transformation of the variables, except in the case of the real interest rate.

1.  $H_0$ : all panels contain unit roots;  $H1$ : some panels are stationary. The table shows the *p-value* of the W-t-bar statistic.

2.  $H_0$ : the panels contain unit roots;  $H1$ : at least one panel is stationary. The table shows the *p-value* of the Z statistic (normal inverse).

3.  $H_0$ : ll panels contain unit roots;  $H1$ : some panels are stationary. The table shows the *p-value* of the Z statistic (normal inverse).

Estimates run using STATA 15.

