Distributional Macroeconomics in a Three-Class Model of a Dependent Economy[*]

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Abstract

Using a three-class model of bankers, workers and capitalists, this article outlines the mechanics between distribution and output in small very open economies (SVOEs). Unlike the traditional finding that devaluation increases profit share and output, we show that it is contractionary and increases bankers' rent share at the expense of both profit and wage share. Crucial to this finding is the plausible assumption that bankers exercise market power in the loan, foreign exchange and bond markets in SVOEs. In the long-run, output is constrained by the external balance and expansionary policy only redistributes income without any real economy effects. It follows that primary goods exporting countries are dependent economies in three dimensions: 1. Long-run income is externally determined, 2. Domestic policy-levers are ineffective and 3. SVOEs are beholden to the banker/rentier class that profits without intermediation in both boom and bust.

Keywords: small open economy, devaluation, bankers, distribution, external balance
JEL Classification: E20, E25, E32, E60, F41

[. . .] the problems of the so-called Third World,
including the Caribbean [. . .] are nothing more than
a Sisyphean Fable [. . .] Like Sisyphus of Greek
mythology, the region had to push a stone up a
mountain of economic reform to achieve stabilization
and financial adjustment, but the stone came
crashing back down the hill, after each attempt to
push it up the hill.

— S. B. Jones-Hendrickson 1999, *Stabilization and*
Financial Adjustment in The Caribbean: A
Retrospective.

1 Introduction

The *Sisyphean Fable* noted above best explains why problems of output growth, unemployment and the balance of payments are persistent in peripheral economies. In a three-class post-Kaleckian/Keynesian model of bankers, workers and capitalists, we demonstrate why macroeconomic policy in SVOEs, is always *pushing a stone up a mountain, only for it to roll down when it nears the top.* Our model is similar to the IS-LM-BP model and the SWAN diagram in that it focuses on the effects of policy on the internal and external balance. However, our model zooms in on these analytics within a distribution framework of three-classes, which is also a significant deviation from the standard formulation of distribution and macroeconomic performance (Bhaduri and Marglin (1990), Blecker (1989), Kalecki (1942), Taylor (1985), Goodwin (1967), Dutt (1984), Ribeiro et al. (2016) and Alleyne and Patin (2017) among others). Recent three-class modeling looks at the distributional macroeconomics of advanced countries and the third class is often financial rentiers (speculators or shareholders) or a top management class (Palley (2015) and Hein and van Treeck (2007) among others). The inclusion of our banker class allows us to shed light on the distributional and macroeconomic effects of a number of controversial policies (devaluation, monetary sterilization, fiscal austerity etc).

Similar to Braun and Joy (1968), Krugman and Taylor (1978) and Thomas (1989) we find that devaluations are *unambiguously* contractionary but unlike these studies, we show that the redistributive effect increases bankers' rent share and reduces both wage and profit share. It follows that devaluations are contractionary even in profit-led economies, contrary

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to Blecker (2011), Blecker (1999) and Bhaduri and Marglin (1990). Our theoretical results are empirically verified in SVOEs and other developing countries (Worrell (1981), Prakash and Maiti (2016), Agenor (1991) and Sencicek and Upadhyaya (2010) among others). The result hinges on the plausible assumption that bankers are the dominant traders in the foreign exchange market so that a depreciation increases bankers' economic rent. This result is a strong case for managed/fixed exchange rate systems, especially since our findings are more stringent in that devaluations produce stagflationary effects. It also illustrates the significant limitations of the SWAN diagram for SVOEs, which calls for currency depreciations to restore external balance when an economy experiences international payments deficits (Swan (1968)).

Typical of three-class models, our finding of contractionary and redistributive devaluations shows that there may be an association of interests between capitalists and workers in maintaining a stable exchange rate when oligopolistic bankers are the dominant social class. We specify the latter as dominant because of their disproportional political leverage on economic policy. SVOEs are not only *technically dependent*, in that they must import their means of production but they are also *financially dependent*—meaning that the banker class has a high preference for foreign assets, which significantly reduces monetary policy autonomy. More concretely, the paper demonstrates that the policy choice of managed/fixed exchange rate necessitates monetary sterilization and directly increases bankers' rent share.

Investigating the case of Jamaica, Robinson (1999) contends that the choice of exchange rate system depends on a multitude of factors, especially the role of government in the economy. Our model shows that fixed exchange rate regimes indeed require deeper fiscal austerity and larger fiscal expansions under balance of payment deficits and surpluses respectively. So that maintaining a fixed exchange rate depends principally on stringent fiscal commitment on the austerity side as SVOEs are prone to external deficits (Worrell et al. (2018) and Worrell (2018)). We add one twist to this stylized fact and show that austerity is just as redistributive as devaluations and increases the profit share but lowers the wage and rent share. It follows that the choice between devaluation and austerity is a choice between classes—the rentier/banker or capitalist—while the working class' income share adjusts downwards in either case.

The paper reproduces the Mundell-Fleming result that fiscal policy is ineffective at influencing the real economy under flexible exchange rate regimes. However, given our distributive framework, we find that fiscal policy also increases bankers' rent share at the price of lower

wage and profit share in the long-run. Moreover, like the Mundell-Fleming model, we find that fiscal policy does affect economic output under fixed exchange rate regimes but at the cost of lower reserve holdings and central bank credibility. Therefore, this result is not sustainable. We also add one twist to this result, where fiscal policy under fixed exchange rate regimes is just as ineffective as fiscal policy under flexible exchange rate systems. This is the outcome of what we call non-cooperative monetary policy—maintaining a fixed bid-ask spread by selling government securities to the banker class, thereby, redistributing income to rentiers and contracting overall demand.

These findings illustrate why the *Sisyphean Fable* is an appropriate metaphor for SVOEs. They explain the persistence of high income inequality (King and Handa (2001), Benfield (2016), ECLAC (2014), Bunwaree (2014), Constantine (2017a) and Constantine (2017b)), particularly high rent share under devaluations and high profit share during fiscal contractions. More fundamentally, the contractionary devaluations and demand reducing effects of austerity can explain the persistent unemployment (Packard et al. (2014) and ECLAC (2016)) in these economies and why their citizens may choose to escape through the gateways of migrant channels. SVOEs have some of the higher rates of migration in the world and diasporas a size larger than their home countries (Frederic and Maurice (2007)).

The vulnerability of these peripheral economies are even more acute when we explore exogenous shocks. We show that if a SVOE is initially in both internal and external equilibrium, a collapse in external demand leads to the famous twin deficits problem even if the economy was fiscally responsible prior to the crisis. This in turn produces contractionary devaluations and/or austerity along with the corresponding redistributive effects. In the case of an exogenous increase in the foreign interest rate, say a Fed interest rate hike, SVOEs experience significant economic contraction and a redistribution of income in favour of the banker class under managed/fixed exchange rate regimes. In flexible regimes, the short-run economic contraction increases the profit share in the long-run but with no real economy effects. Thus, the paper argues that both growth and distribution are externally determined in technically and financially dependent economies.

The deflationary bias of macroeconomic adjustments is not new to SVOEs. In fact, Thomas (2001) notes that during the pre-independence period under the currency board mechanisms, SVOEs like those in the Caribbean, consistently achieved external balance at the expense of internal balance—meaning full employment. Thomas' conception of internal balance as full employment is similar to Swan (1968). We do not impose such a restrictive

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assumption on our model so that internal balance simply refers to goods market equilibrium, where the latter is one of unemployment equilibrium. This difference is fundamental. We argue that SVOEs may obtain both internal and external balance well before their productive capacity, so that their economies function under Keynesian unemployment. In other words, the demand for foreign exchange may exceed its supply well below productive capacity. This casts an even darker shadow over the deflationary adjustment mechanisms in SVOEs—devaluations and/or austerity as adjustment policies under conditions of Keynesian unemployment are recipes for social crises.

Given the distributive trade-offs among policy alternatives we find that factor income shares vary across the cycle. The wage share is unambiguously pro-cyclical, while both profit and rent share depend on policy. For instance, under monetary policy the profit share is pro-cyclical but becomes counter-cyclical with the use of fiscal policy and the reverse is true for the rent share. We also find that any attempt to reduce unemployment (increase the wage share) only increases bankers' rent share in the long-run under both fixed and flexible exchange rate systems. The same result holds when capital inflows are sterilized to neutralize Dutch Disease effects but with the added cost of deeper short-run economic contractions under fixed exchange rate systems as compared to the flexible regime. It appears that SVOEs—like the Malthusian prediction—have reinforced economics as the *dismal science*.

What do deflationary adjustments mean for indebtedness? Tennant (2014) notes that Small Island Developing States (SIDS) are among the most highly indebted countries in the world. In our paper, the stock of domestic debt increases due to monetary sterilization so that maintaining a fixed exchange rate accompanies domestic indebtedness, while external debt is accumulated in both fixed and flexible regimes when trade deficits are persistent. It follows that SVOEs are burdened with higher stocks of debt after their deflationary adjustments have restored internal and external equilibrium and the debt overhang can prolong the period of stagnation as debt servicing costs may crowd out developmental fiscal policies.

Where do we go from here? The answer to this question is certainly beyond the scope of this article but the tendency of deflationary adjustments and persistent income inequality warrant a new form of interaction between SVOEs and the international community. First, the *permanent* deflationary adjustments present a strong case for *Special* and *Differential Treatment* in the global trading system. This can be some variant of the Keynes-Stiglitz-Davidson plan (Gnos and Rochon (2004)) for SVOEs exclusively and may serve as the first step in building an equitable global trading system. SIDS advocate for the global recognition

of the *Economic Vulnerability Index* (Briguglio (1995), Atkins et al. (2001) and Crowards (1999)), which is a composite measure to capture their uniqueness of size, insularity, proneness to natural disasters and environmental degradation. There may be a small opening for new and stronger advocation given the recent interest in global imbalances and concerns over migrant flows. Second, donor agencies should tie development assistance in all forms to the unique vulnerabilities of technically and financially dependent SVOEs. Third, through modern schemes of integration, SVOEs can cooperate to reduce their collective technical dependency and develop and market new tradables unique to their culture, geography and history. These are primarily the creative industry that includes music, arts, tourism and film etc. But cooperation can extend into science regarding the variable use of their biodiversity. Finally, SVOEs would do well to collectively insist on *Special* and *Differential Treatment* in future trade agreements and take the necessary steps to re-negotiate existing agreements. Our list is not exhaustive and we emphasize that these are only tentative ideas that should serve as the prime research agenda in the future.

The remainder of the paper is organized as follows. Section II presents the building blocks of our model and in section III we present our notion of equilibrium and derive the corresponding solutions. In Section IV we present our results and conclude in section V.

2   Model

2.1   Supply Side

Consider a small and very open economy that produces two goods: 1. non-tradable good (Y_h) for domestic consumption and 2. primary good (Y_x) for export markets. Equation (1) states that good (Y_h) is produced by a combination of labour (N) and domestic (K_d) and imported capital goods (K_m).

$$Y_h = f(N, K_d, K_m) \tag{1}$$

We assume that firms in the non-tradable sector have some degree of market power so that the price of good (Y_h) is a mark-up (τ_1) over the unit cost of imported capital $\left(\frac{eP_f}{\sigma_{km}}\right)$ and unit labour and domestic capital costs, where $(e, P_f, w, r_L, \sigma_w, \sigma_{km}, \sigma_{kd})$ are nominal exchange rate, price of imported capital, wage rate, loan rate and productivity parameters respectively. The nominal exchange rate shows the amount of local currency units per one foreign currency,

where increases in (e) indicates a depreciation/devaluation. Moreover, we assume a relatively high pass-through of changes in (e) to (P_h), so that a depreciation/devaluation increases (P_h)[1].

$$P_h = \tau_1 \left(\frac{eP_f}{\sigma_{km}} \frac{w}{\sigma_w} \frac{r_L}{\sigma_{kd}} \right) \tag{2}$$

Good (Y_x) has a similar production function as (Y_h) and our small economy has no control over world prices and thus, takes the export price as given. Aggregate output (Y) is the sum of $(Y_x + Y_h)$.

$$P_x = P_f \tag{3}$$

Assume that overall prices (P) is a simple average of (P_h) and (P_x), where (ρ) is increasing in (P_h) and (P_x) and homogenous of degree one. Finally, the real exchange rate (θ) is given by (5).

$$P = \rho(P_h, P_x), \qquad \text{where } \rho(P_h, P_x) = \frac{\rho(P_h, P_x)}{2} \tag{4}$$

$$\theta = \frac{eP_f}{\rho(P_h, P_x)} \tag{5}$$

2.2 Demand Side

Aggregate demand is the familiar expenditure identity shown in (6). We utilize the standard neo-Kaleckian investment function with one additional factor—the cost of external finance (r_L)—which we specify as a mark-up over an exogenously given foreign interest rate so that $(r_L = \tau_2 r_F)$. We include this monetary variable for two reasons. First, to capture the cost of external finance (bank loans) and second, to account for the redistribution process between capitalists and bankers as (r_L) changes (Hein (2007) and Lavoie (1995)). The investment function assumes the familiar relationships where (I_0), (π), (r_L) and (u) are animal spirits/investment confidence, profit share, cost of external finance and capacity utilization respectively. Capacity utilization is simply the output gap $\left(u=\frac{Y}{Y^*}\right)$ and we employ

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[1]See Francis (1986), Peiris and Ding (2012), Petreski (2013), Lariau et al. (2016), Mujica and Saens (2015) and Ghartey (2018) for empirical support of high exchange rate pass-through in the small open economies we have in mind.

these terms interchangeable with employment.

$$AD = C + I + G - T + NX \tag{6}$$

$$I = I_0 + \phi_1\pi + \phi_2 u - \phi_3(r_L) \tag{7}$$

Our model is composed of three classes: bankers, capitalists and workers, where the latter do not save. The aggregate savings function (S) is specified as follows, where bankers' and capitalists' savings rate are (s_b) and (s_c) respectively.

$$S = (s_b + s_c)u \tag{8}$$

Next, we model the open economy, where export (X) and import (M) demand are positive functions of foreign (u_F) and domestic (u) capacity utilization respectively. The real exchange rate (θ) is an important determinant of export demand if (Y_x) is price elastic and/or if the economy can influence the export price. Since neither conditions hold in our small open economy, export demand is not a function of the real exchange rate. However, (θ) is an important driver of overall import demand since our economy is dependent on both consumer (C_m) and capital imports $(M = K_m + C_m)$. Therefore, a real depreciation/devaluation increases the costs of (C_m) and (K_m) and constrains import demand. Net external demand is illustrated in (10).

$$X = X_0 + \phi_4\mu_f \tag{9a}$$

$$M = M_0 + \phi_5\mu - \phi_6\theta \tag{9b}$$

$$NX = X_0 - M_0 + \phi_4\mu_f - \phi_5\mu + (\phi_6)\theta \tag{10}$$

Government spending (G_0) is assumed to be exogenous but government's tax revenue (T) is directly related to (u) by a proportional tax rate of (λ). It follows that the economy is supported by fiscal stabilizers. The fiscal balance (FB) is shown in (11) below.

$$FB = (G_0 - \lambda u), \text{where T} = \lambda u) \tag{11}$$

2.2.1 Income Distribution

We specify what we call the Distributive Curve (DC) in (12) and (13) shows that the wage share is positively related to capacity utilization. We employ the post-Keynesian bargaining approach of the labour market where unions negotiate wage contracts with firms (Rowthorn (1977), Stockhammer (2011), Setterfield (2007)). The bargaining power of labour unions increases with employment—capacity utilization—and this in turn leads to higher wage demand. If the elasticity of substitution between capital and labour is less than one, a rise in the wage rate increases the wage share.[2] The constant (α_0) captures labour's exit options like unemployment benefits and remittance inflow that increase labour's bargaining power.[3] In SVOEs, migration rates and remittance inflows are significant and the latter serve to increase (decrease) labour's reservation wage (hours worked).[4]

$$\pi_{DC} = 1 - \alpha - \beta \tag{12}$$

$$\alpha = \alpha_0 + \phi_7 u \tag{13}$$

Our pro-cyclical formulation of the wage share is in contrast to much of the literature on factor shares and cycles in closed and large economies (Goodwin (1967), Nikiforos and Foley (2012), Skott (1989) and Flaschel and Skott (2006)). These scholars show that factor shares are pro-cyclical and counter-cyclical at different phases of the cycle leading to what Jackson (2012) describes as distributive loops. But in small open economies rising utilization engenders trade deficits, in part because of rising wage share that boosts demand for consumer imports. The short-term external adjustment facilitates the increase in the wage share as opposed to the case in closed or large economies, where supply-side restrictions on output adjust prices faster than wages—lowering the wage share ((Taylor, 2004, pp.237)). The reverse is true when depreciations/devaluations reduce the wage share along with utilization and external deficits (Krugman and Taylor (1978) and Thomas (1989))—cementing a pro-cyclical wage share. The ambiguous relationship between depreciation/devaluation and capacity uti-

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[2]Rowthorn (1999) summarizes evidence that the elasticity of substitution is less than one and see Semieniuk (2017) for recent evidence that uses Piketty (2014)'s data.

[3]See Stockhammer (2017) for empirical evidence that financial globalization has increased the exit options of capital and their profit share correspondingly in both developed and developing countries.

[4]See Bussolo and Medvedev (2008) and Namsuk (2007) for empirical evidence in the case of Jamaica and Jadoote and Ramos (2016) for the Republic of Haiti.

lization is well-known (Ribeiro et al. (2016), Blecker (2011) and Blecker (1999)) but we argue that this ambiguity is related to the exclusion of an oligopolistic banker class (in the case of SVOEs) and when included, depreciation/devaluation is unambiguously contractionary as we demonstrate.

Bankers' rent share (β) is modeled as a positive function of the foreign interest rate (r_F) and the intensity of sterilization in the case of a managed/fixed exchange rate system. The financial sector is dominated by oligopolistic banks[5] that exercise market power in the foreign exchange, loan and government bond markets (Moore and Craigwell (2002), Khemraj and Pasha (2014) and Khemraj (2014)). Government bond and loan rates are a mark-up on the foreign interest rate (Khemraj (2010) and Lorde et al. (2008)) so that an increase in (r_F) leads to higher rent share. Bankers are also the dominant traders in the local foreign exchange market and collude to influence the bid-ask spread ($e - e_b$), where (e_b) is the buying rate (Khemraj (2009). Ergo, a devaluation/depreciation directly increases bankers' rent share. In managed exchange rate systems, the target is a stable bid-ask spread.

$$\beta = \beta_0 + \phi_8(e - e_b) + \phi_9(R^T - R) + \phi_{10}u + \phi_{11}r_F \tag{14}$$

While government bonds (lower risk premium) are preferable to loans, bankers demand for foreign assets (lowest risk) are perfectly elastic. However, their ability to invest in foreign dominated assets depends on the availability of foreign currency, which in turn is partly determined by the central bank's target reserves (Khemraj (2009)). When (R^T) increases the central bank bids away scarce foreign currency from the banker class and sterilizes the corresponding expansion of the money supply through the sale of bonds to bankers. It follows that sterilization increases the banker class' rent share. However, if sterilization fails to produce *satisficing* rents, the banker class may opt to widen the bid-ask spread, which can engender a currency devaluation. In turn, the central bank responds by selling bonds as a form of *compensation* for bankers' loss in foreign earnings and as a tool to manage the exchange rate (Khemraj (2018), Godley and Lavoie (2005), Lavoie and Wang (2012) and Lavoie (2001)). Further, as capacity utilization expands, so does credit creation and the demand for foreign currency, which conspire to induce a devaluation—an expansion of the spread ($e - e_b$). It follows that under managed/fixed exchange rate systems, sterilization and

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[5]See Khemraj and Pasha (2012) for high bank concentration ratios in Caribbean economies—0.94 (the Bahamas), 0.96 (Barbados), 0.96 (Belize), 0.94 (Guyana), 0.91 (Jamaica) and 0.84 (Trinidad and Tobago).

bankers' rent share increase during periods of economic expansion.

When sterilization is incomplete as the evidence suggests,[6] the banker class builds up excess reserves and this significantly reduces the effectiveness of indirect monetary policy (Worrell (1997)). Moreover, due to credit risk, market size and high transaction costs; the banker class accumulates non-remunerated excess reserves when foreign currency or bonds are unavailable (Khemraj (2010)). This engenders high interest rate spreads, particularly high (r_L) and serves as an important source of bankers' rent share. In short, for managed/fixed exchange rate systems, we view part of bankers' rent share as externally determined by the foreign interest rate and the remainder through a process of collusion to influence market rates and/or quantities traded and the degree of sterilization.

In a flexible exchange rate system there is no sterilization so that the rent share becomes $(\beta = \beta_0 + \phi_8 e + \phi_{11} r_F)$. A currency depreciation increases rent share because bankers are the dominant traders and earn an economic rent of the size $(e - e_b)$. The nominal exchange rate is anchored by market expectations, which in turn is determined by the economy's trade balance. Substituting (13) and (14) into (12) derives the Distributive Curve shown in (15). It represents stable income shares at a given foreign interest rate when monetary targets are met or when the nominal exchange rate is stable (in the case of a floating exchange rate system).

$$\pi_{DC} = 1 - \alpha_0 - (\phi_7 + \phi_{10})u - \beta_0 - \phi_8(e - e_b) - \phi_9(R^T - R) - \phi_{11}r_F \qquad (15)$$

The effects of parameter changes are as follows, where the slope is negative $\left(\frac{\partial \pi_{DC}}{u} = -\phi_7 - \phi_{10}\right)$ and flatter under a flexible exchange rate system $\left(\frac{\partial \pi_{DC}}{u} = -\phi_7\right)$. This means that sterilization reduces output and wage share volatility.[7]

$$\frac{\partial \pi_{DC}}{\partial u} = -\phi_7 - \phi_{10} \qquad\qquad \frac{\partial \pi_{DC}}{\partial r_F} = -\phi_{11}$$

$$\frac{\partial \pi_{DC}}{\partial (e - e_b)} = -\phi_8 \qquad\qquad \frac{\partial \pi_{DC}}{\partial (R^T - R)} = -\phi_9$$

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[6]See Khemraj and Pasha (2012) for evidence in the Caribbean and Khemraj (2014) for SVOEs in Europe, Africa and Latin America and Caribbean.

[7]See Magda (2015), De Grauwe and Gunther (2004), Schnabl (2008) and Vieira et al. (2013) for empirical evidence that show how flexible exchange rate regimes lead to greater output volatility in SOEs.

3 Equilibrium

3.1 Goods Market Equilibrium

The goods market equilibrium condition is $(S = I + NX + FB))$ and substituting (7), (8), (10) and (11) into this identity lead to the IS curve below solved in terms of profit share. Equation (16) shows the combinations of (π) and (u) that are consistent with goods market equilibrium, where the constant is $(\psi = -I_0 - G_0{}^8 - (X_0 - M_0))$.

$$\pi_{IS} = \frac{\psi + \phi_3(\tau_2 r_F) - \phi_4 \mu_f - \phi_6 \theta + (s_c + s_b + \phi_5 + \lambda - \phi_2)u}{\phi_1} \tag{16}$$

The goods market stability condition is illustrated in (17) where the excess demand for goods (EDG) are eliminated through the leakages associated with savings, imports and taxation.

$$EDG = \frac{\psi + \phi_3(\tau_2 r_F) - \phi_4 \mu_f - \phi_6 \theta + (s_c + s_b + \phi_5 + \lambda - \phi_2)u}{\phi_1} - \pi_{IS} = 0$$

$$\frac{\partial EDG}{\partial \mu} = s_c + s_b + \phi_5 + \lambda - \phi_2 > 0 \tag{17}$$

The IS curve is upward sloping given that the numerator is positive per the stability condition in (17) and that the denominator (ϕ_1)—the sensitivity of investment to profit share—assumes a positive value. The effects of parameter changes on the IS curve are shown below.

$$\frac{\partial \pi_{IS}}{\partial u} = \frac{s_c + s_b + \phi_5 + \lambda - \phi_2}{\phi_1} \tag{18}$$

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[8]Fiscal deficits reduce profit share and this can be proven as follows. Let capitalist consumption C_c be defined as $(C_c = C_0 + C_1 \Pi)$, where C_0 and C_1 are autonomous consumption and marginal propensity to consume respectively. The Kaleckian profit identity takes the following form $(\Pi = C_c + I + G - T + NX)$, which demonstrates that a fiscal deficit $G > T$ increases the level of profits. Given that the profit share π can be defined as $\pi = \frac{\Pi}{Y}$, national income can be rewritten as $(Y = \frac{C_0 + I + G - T + NX}{(1 - C_1)\pi})$. Accompanying fiscal multipliers are $(\Delta\Pi = \frac{\Delta(G-T)}{1 - C_1})$ and $(\Delta Y = \frac{\Delta(G-T)}{(1-C_1)\pi})$, which show that fiscal surpluses reduce national income faster than the level of profits so that the profit share increases.

$$\frac{\partial \pi_{IS}}{\partial \psi} < 0 \qquad\qquad\qquad \frac{\partial \pi_{IS}}{\partial \theta} = \frac{-\phi_6}{\phi_1}$$

$$\frac{\partial \pi_{IS}}{\partial r_F} = \frac{\phi_3}{\phi_1} \qquad\qquad\qquad \frac{\partial \pi_{IS}}{\partial u_F} = \frac{-\phi_4}{\phi_1}$$

Our upward sloping IS curve is consistent with the literature that open economies are profit-led $\left(\frac{\partial \mu}{\partial \pi} > 0\right)$ (Blecker (1989), Bhaduri and Marglin (1990) and Razmi (2015)).[9] We ignore the possibility of a downward sloping IS curve because we are exclusively interested in open economy analyses. A relatively higher saving rate for capitalists and/or a low sensitivity of investment to profit share produce a wage-led different demand regime.[10] However, two recent studies investigate the feasibility of wage-led demand regimes in open economies (Ros (2016) and Cassetti (2012)). Ros presents a three sector model and argues that the presence of a capital intensive non-tradable sector modifies the demand regime for open economies. He explains that higher wage share increases the demand for non-tradable services like banking, insurance and construction in the short-run. Like Ros, Razmi (2015) develops a three sector model that has two tradable sectors: one that produces a homogenous good and the other a differentiated good. He concludes that higher wage share may boost domestic demand but significantly reduce net external demand limiting the feasibility of a wage-led demand regime in open economies. This is an important shortcoming of Ros (2016) since he omits all considerations regarding balance of payments constraints. Focusing on bargaining institutions, Cassetti finds that wage-led growth is possible with balanced trade through the use of income policy that reduces the growth of nominal wages. But this is more akin to

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[9]The empirical literature on wage vs. profit-led growth regimes for developing countries is limited and even thinner for small open economies. See Silva de Jesus et al. (2017) for evidence that Brazil is based on a profit-led growth regime and Onaran and Galanis (2013) for a global study. Due to data limitations only a handful of developing countries were included in the study and they concluded that Mexico, Argentina, China, India and South Africa are profit-led economies.

[10]If we re-specify the savings function to account for income distribution, the slope of the IS curve becomes ambiguous, depending on the size of (s_c).

$$S = (s_b \beta + s_c \pi) u$$

$$\frac{\partial \pi_{IS}}{\partial u} = \frac{s_c + s_b \beta + \phi_5 + \lambda - \phi_2}{(1 - s_c u)\phi_1} > or < 0$$

a profit-led rather than a pure wage-led demand regime. Moreover, Razmi (2015) arrives at a restrictive finding and notes that the presence of a homogenous tradable goods sector, where firms are price takers, completely rules out the possibility of wage-led demand in open economies. This finding is additional justification for our upward sloping IS curve since our tradable sector produces a homogenous good (Y_x).

3.2   Short and Long-Run Equilibrium

We specify the short-run as the period where the goods market equilibrium and the distribution of income are consistent with monetary targets or stable exchange rates but result in significant external disequilibrium. Thus, the long-run is the period where the external balance adjusts along with the price level and the stocks of external and domestic debt.

To model the long-run we specify three equations to demonstrate that the balance of payment (BP) is a constraint on long-run employment and to illustrate how short-run fluctuations can alter the economy's level of external and domestic debt in the long-run. The balance of payment is the sum of the exogenously given capital account (CA_0) and the trade balance (which we assume to be the current account for simplicity) and imposing the restriction that ($BP = 0$), we can solve for the long-run level of employment (u_{BP}). If the exchange rate system is freely floating then ($CA = CA_0$, where $\Delta R = 0$). Given that our SVOE is a simple commodity exporter with unsophisticated money markets, we assume imperfect capital mobility.

$$BP = CA_0 + NX$$

$$u_{BP} = \frac{CA_0 + (X_0 - M_0) + \phi_4 u_F + \phi_6 \theta}{\phi_5}, \text{where CA}_0 = CA - \Delta R \tag{19}$$

Equation (19) illustrates the fundamental determinants (constraints?) of long-run employment in our small open economy. It is constrained by external demand, the ability of the economy to attract capital and the ratio of the income propensities of demand for exports and imports. This is the standard long-run formulation for open economies that are balance of payment constrained (Alleyne and Francis (2008), Thirlwall (1979) and Thirlwall and Hussain (1982)). Assuming the Marshall-Lerner condition holds, a real depreciation (or devaluation) increases the level of employment that is consistent with balance of payment

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equilibrium. But in the context of our model, increases in (θ) adjusts the external balance through reductions in import demand rather than through increases in external demand. Further, if we assume that relative purchasing power parity holds in the long-run, so that relative prices of home and foreign goods do not permanently change, we can omit (θ) from (19) to arrive at the levels version of Thirlwall's Law modified to account for capital flows. The effects of parameter changes on the (u_{BP}) curve are shown below.

$$u_{BP} = \frac{CA_0 + (X_0 - M_0) + \phi_4 u_F}{\phi_5}, \text{where } CA_0 = CA - \Delta R \tag{20}$$

$$\frac{\partial u_{BP}}{\partial CA_0} > 0 \qquad\qquad\qquad \frac{\partial u_{BP}}{\partial u_F} = \phi_4$$

$$\frac{\partial u_{BP}}{(X_0 - M_0)} > 0$$

Short-run accumulation of (BP) surpluses (deficits) decrease (increase) the level of external debt in the long-run. To see this consider (21), where (ΔNFA) is the accumulation of net foreign assets.

$$BP = \Delta NFA \tag{21}$$

When ($BP = 0$), the accumulation of (ΔNFA) is zero so that balance of payment surpluses ($BP > 0$) increase the accumulation of net foreign assets ($\Delta NFA > 0$) and reduce the level of external debt when (BP) equilibrium is restored. The reverse is true when ($BP < 0$) and induce ($\Delta NFA < 0$)—leading to a higher level of external liabilities when balance of payment equilibrium is achieved. It follows that the long-run level of external debt (ED) must satisfy the condition ($ED = ED_0 - \Delta NFA$).

Consideration of long-run domestic debt (DD) relates to the changes in the sale of government bonds (b) shown in (22), where complete sterilization means that [$\Delta(e - e_b) + \Delta R + \Delta u = \Delta b$], while incomplete sterilization does not lead to a proportional change in bonds [$\Delta(e - e_b) + \Delta R + \Delta u > \Delta b$]. Since we assume incomplete sterilization, domestic debt increases less than proportionately in the short-run. Long-run domestic debt satisfies the following condition ($DD = DD_0 + \Delta b$).

$$\Delta(e - e_b) + \Delta R + \Delta u \geq \Delta b \tag{22}$$

3.3 Balance of Payment Excess Demand and Unemployment

Figure 1 illustrates the IS-DC model where internal and external balance are attained at point (A) with a distribution of income (π_0, β_0) and a long-run employment level of (u_0) constrained by the balance of payment (u_{BP0}). Any goods market equilibrium to the right of the (u_{BP0}) curve is a short-run equilibrium where the balance of payment is in deficit and the economy accumulates external debt, say at point (B). The reverse is true at point (C) where the economy operates with an external surplus in the short-run and accumulates (NFA) or reduces its external debt obligations.

Quadrants (I) and (IV) illustrate that the economy is in a short-run period of *balance of payment excess demand.* By this we mean that the short-run level of aggregate demand exceeds the level that is consistent with (BP) equilibrium, which is different from *Keynesian excess demand.* In the latter case, aggregate demand exceeds the economy's productive capacity, given the availability of its resources—capital, labour and technology. But in SVOEs balance of payment excess demand can occur well below productive capacity defined in these terms. It follows that (BP) excess demand can co-exist with Keynesian unemployment and this reduces the utility of *Keynesian demand management*—eliminating the gap between aggregate demand and productive capacity. Still, in SVOEs demand management policies are essential but the target is the difference between domestic demand and the maximum permitted by the balance of payment. In these terms, our IS-DC model is very different from the so-called SWAN diagram (Swan (1968)), where internal balance refers to goods market equilibrium at *full employment.* Therefore, we are closer to the Mundell-Fleming model in that we always assume the presence of Keynesian unemployment. Quadrants (II) and (III) illustrate the cases of *balance of payment unemployment* and external surpluses. Unlike Keynesian unemployment, (BP) unemployment is that short-run period where the level of unemployment is higher than what is permitted by the balance of payment. This is a period of significant depression—the summation of Keynesian and (BP) unemployment.

Figure 1: IS-DC Model
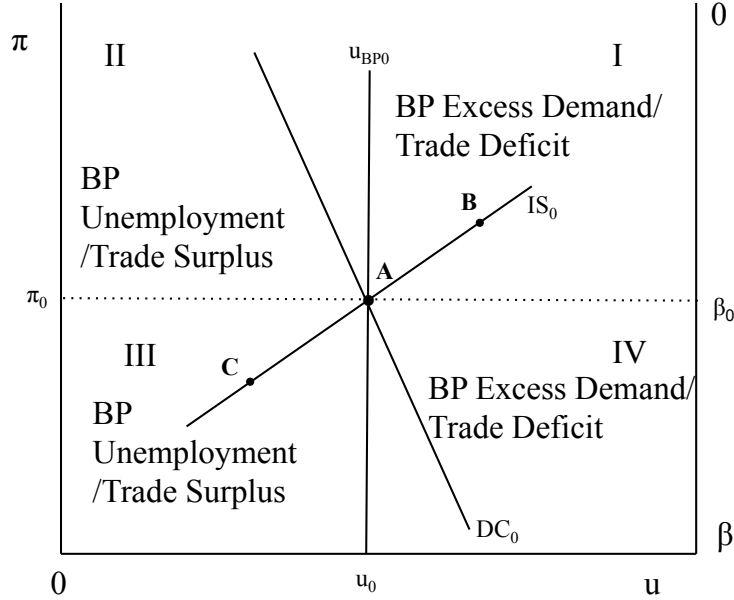
4 Results

4.1 External Deficits and Negative Demand Shock

We begin our analysis with the familiar case of external deficits and the accumulation of external debt at point (A) shown in Figure 2 panel A, with the corresponding distribution of income (π_1, β_1) and an employment level of (u_1) that exceeds (BP) employment of (u_*). The distributive curve consistent with a flexible exchange rate regime is (FLX_{DC1}) and the market expects a depreciation given the trade deficit. A depreciation shifts (FLX_{DC1}) to (FLX_{DC2}) restoring internal and external balance at (B) with a higher stock of external debt and a redistribution of income in favour of bankers. Profit and wage share decline to (π_2, u_*) and bankers' rent share increases to (β_2). This redistributive effect of depreciation is contractionary on three fronts that restore external balance: 1. lower import demand via lower wage share, 2. lower investment demand via lower profit share and 3. higher savings via higher rent share. This result is robust and expected when oligopoly banks are major traders in the foreign exchange market. Further, the initial position of (BP) excess demand signals relatively strong labour power and jointly with a currency depreciation increase the long-run price level at (B), leaving the real exchange rate unchanged.

External adjustment with a managed/fixed exchange rate regime can take the form of

either compensation or official intervention by the central bank in the foreign exchange market. We start with official intervention and the relevant distributive curve is (F_{DC1}). As the market pressures for an increase in the bid-ask spread, the central bank reduces its holdings of reserves and accommodates the (BP) excess demand, this in turn shifts (u_{BP*}) to (u_{BP**}) and (F_{DC1}) to (F_{DC2}). The relatively strong labour power increases the price level and induces a real exchange rate appreciation, which shifts (IS_1) to (IS_2) to the long-run equilibrium at point (A^*). The long-run consists of trivial redistribution, higher price level (but lower than the case of flexible exchange rate), lower central bank reserves and a higher stock of external debt. As is well-known, a central bank's ability to accommodate a (BP) excess demand depends on the size of its reserve holdings. At (A^*), the market may question the monetary authority's ability to defend the peg or fixed bid-ask spread. It follows that such accommodative monetary policy and the level of employment (u_1) cannot persist indefinitely.

Figure 2: IS-DC Model Results I

(a) BP Excess Demand

(b) Negative External Demand Shock
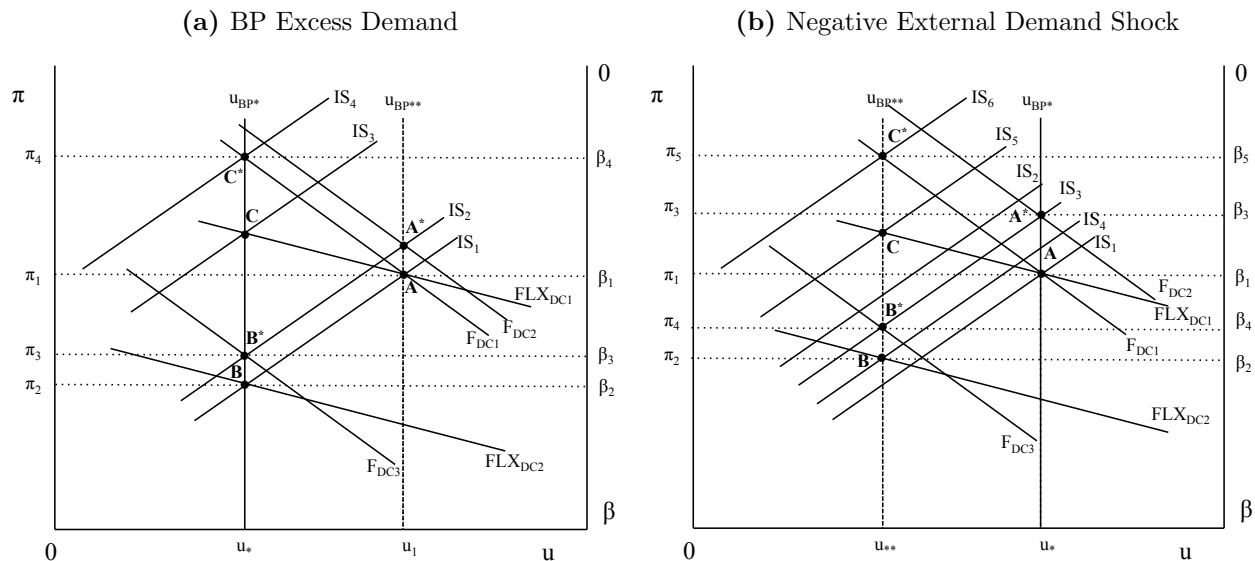
Now consider that the central bank sells bonds to the banker class as a form of compensation for keeping the fixed bid-ask spread. This shifts (F_{DC1}) to (F_{DC3}) to the long-run equilibrium at (B^*). Compensation has similar redistributive effects as the case of the floating foreign exchange rate, it increases rent share to (β_3) and reduces wage and profit share to (π_3, u_*). The external balance adjusts through the contractionary impulses associated with this redistribution. The equilibrium (B^*) consists of a higher price level (but lower than the

case of flexible exchange rate), no change in central bank reserves but higher stocks of both domestic and external debt.

One alternative to high inflation (flexible exchange rate), higher domestic debt (compensation) and lower reserves (official intervention) is to contract demand through the use of fiscal austerity. In the case of a flexible exchange rate, (IS_1) shifts to (IS_3) to the long-run equilibrium at (C), while stronger austerity is required for fixed exchange rate regimes as shown by the long-run equilibrium (C^*). Austerity under this regime is just as redistributive as compensation and depreciation but it serves to increase profit share to (π_4) and reduce wage and rent share to (u_*, β_4). Equilibrium at (C) and (C^*) consists of a higher price level (but lower than the case of flexible exchange rate) and a higher stock of external debt.

We can derive the results of a contraction in external demand from Figure 2 panel B. Consider (A) to be the initial equilibrium of both internal and external balance. A decline in external demand shifts (u_{BP*}) to (u_{BP**}) and (IS_1) to (IS_2), which creates a cyclical fiscal deficit (assuming initial fiscal balance) and thus, increases demand to (IS_3). The negative demand shock produces a lower level of employment (u_{**}) that is consistent with (BP) equilibrium. It follows that the *previously sustainable long-run employment* of (u_*) is now excessive and demand must adjust downwards to restore internal and external equilibrium—otherwise external debt accumulates to unsustainable levels. It is crucial to note that (u_{**}) is equivalent to an economic depression and this is the steep price SVOEs pay for their dependence on volatile external markets. Such a scenario is akin to the global recession since 2008 that engineered the twin deficits phenomenon in many SVOEs, e.g. Barbados. This new short-run position is the famous twin deficits—fiscal and external deficits—and the adjustment mechanisms are similar to those discussed earlier with the absence of inflationary tendencies from the labour market since (A) is an initial position of internal and external balance. In the flexible exchange rate regime, market expectations of a depreciation shifts (FLX_{DC1}) to (FLX_{DC2}) with the twin effects of higher prices and a small real depreciation that shifts (IS_3) to (IS_4). The redistributive effects are sizable and partial to bankers at the new long-run equilibrium (B).

The central bank may choose to maintain the employment level (u_*) and thereby reduce its reserves by supplying the market with scarce foreign exchange, which shifts (u_{BP**}) back to (u_{BP*}) and (F_{DC1}) to (F_{DC2}). The long-run equilibrium is now at (A^*) with a sizable redistribution in favour of profit share (π_3) and a decline of rent share to (β_3). Alternatively, the central bank can engage in compensation, which shifts (F_{DC1}) to (F_{DC3}) to the new long-

run equilibrium (B^*) consistent with a higher stock of domestic debt. Its redistributive effects are now well-established. When the twin deficits are binding, there are significant market and political pressures to cut expenditure and this can restore internal and external balance at (C) and (C^*) for flexible and fixed exchange rate regimes respectively. As explained earlier, deeper fiscal cuts are required under fixed exchange rate regimes and the redistributive effects are stronger under same.

4.2   Taking Stock I

We now take stock of the key results thus far. First, a depreciation/devaluation and austerity are two sides of the same redistributive coin with the qualitative difference being the beneficiary class. While austerity redistributes income to capitalists, depreciation/devaluation is partial to bankers and in both cases, wage share/utilization adjusts downwards. Second, depreciation/devaluation is *unambiguously contractionary* rather than a source of stimulus; this is true even if the economy has a profit-led growth/demand regime. Third, deeper fiscal cuts are required under fixed exchange rate regimes to restore internal and external balance when (BP) excess demand is binding. On consideration of the redistribution to rentiers and the stagflationary effects of depreciation/devaluation, the case for flexible exchange rate regimes in SVOEs is significantly weakened. Fourth, the twin strategies of compensation and official intervention to target exchange rates illustrate the importance of central bank independence. Accommodative monetary policy reduces reserve holdings and undermine the central bank's credibility to maintain its target, while compensation is non-cooperative, thus contractionary and likely to be the remit of independent central banks. Fifth, the vulnerability of SVOEs to negative external demand shocks suggests that monetary authorities with fixed exchange rate regimes should accumulate reserves well in excess of the standard three-month import cover to effectively stabilize employment. Sixth, as it relates to factor shares and the cycle: 1. wage share is pro-cyclical irrespective of policy, 2. profit share is pro-cyclical if monetary policy is used but becomes counter-cyclical with fiscal policy and 3. rent share is pro and counter-cyclical with the use of fiscal policy and monetary policy respectively. It follows that policy should not be based exclusively on the effectiveness of restoring internal and external balance but also on the distributive trade-offs among alternatives.

4.3   Fiscal Expansion, Dutch Disease and Fed Interest Rate Hike

Consider Figure 3 panel A where internal and external balance are obtained at point (A) with a long-run level of employment (u_*) and a distribution of income (π_1, β_1). Now consider that Keynesian full employment is (u_{FE}) and fiscal expansion is undertaken to close the Keynesian output gap. This results in the two short-run periods (B) and (B^*) for flexible and fixed exchange rate regimes respectively. (B^*) indicates that a larger fiscal expansion (IS_3) is required to achieve full employment under a fixed exchange rate regime. These short-run equilibria produce the familiar (BP) excess demand—higher wage and rent share but a lower profit share. In the flexible exchange rate regime, market expectations induce a depreciation and shifts (FLX_{DC1}) to (FLX_{DC2}). Along with the currency depreciation, stronger labour bargaining power increases the price level so that the real exchange rate remains constant and the new long-run equilibrium (C) is obtained. It follows that fiscal stimulus to reduce Keynesian unemployment under a flexible exchange rate regime is completely ineffective in the long-run and only redistributes income in favour of bankers. This result is similar to the Mundell-Fleming finding of ineffective fiscal policy under flexible exchange rate regimes.

Now consider that the monetary authority decides to accommodate the full employment fiscal policy and supplies the market with scarce foreign exchange (reduces its reserve holdings). This in turn shifts (u_{BP*}) to (u_{FE}) and simultaneously shifts (F_{DC1}) to (F_{DC2}). The tighter labour market increases the price level and appreciates the real exchange rate, which shifts (IS_3) to (IS_2) to the new long-run equilibrium (B). Though the monetary authority is able to maintain Keynesian full employment it does so at the price of lower reserves and credibility in terms of maintaining its exchange rate target. In the very long-run, Keynesian full employment is likely to become unsustainable. One alternative is to compensate bankers for maintaining a fixed bid-ask spread and this shifts (F_{DC1}) to (F_{DC3}). As the tighter labour market increases the price level, it appreciates the real exchange rate and shifts demand to (IS_2) to the new long-run equilibrium (C). It follows that non-cooperative monetary policy neutralizes a Keynesian stimulus under a fixed exchange rate regime but redistributes income in favour of bankers. Therefore, the Mundell-Fleming result of effective fiscal policy under fixed exchange rate regimes only holds for accommodative monetary policy.

Figure 3 panel B presents analytical results for capital inflows and initial equilibrium is (A)—internal and external balance. Capital inflows (say revenues from a commodity boom) shift (u_{BP*}) to (u_{BP**}), in other words, capital inflow increases the level of employment

Figure 3: IS-DC Model Results II

(a) Full Employment Policy

(b) Capital Inflows

(c) Fed Interest Rate Hike
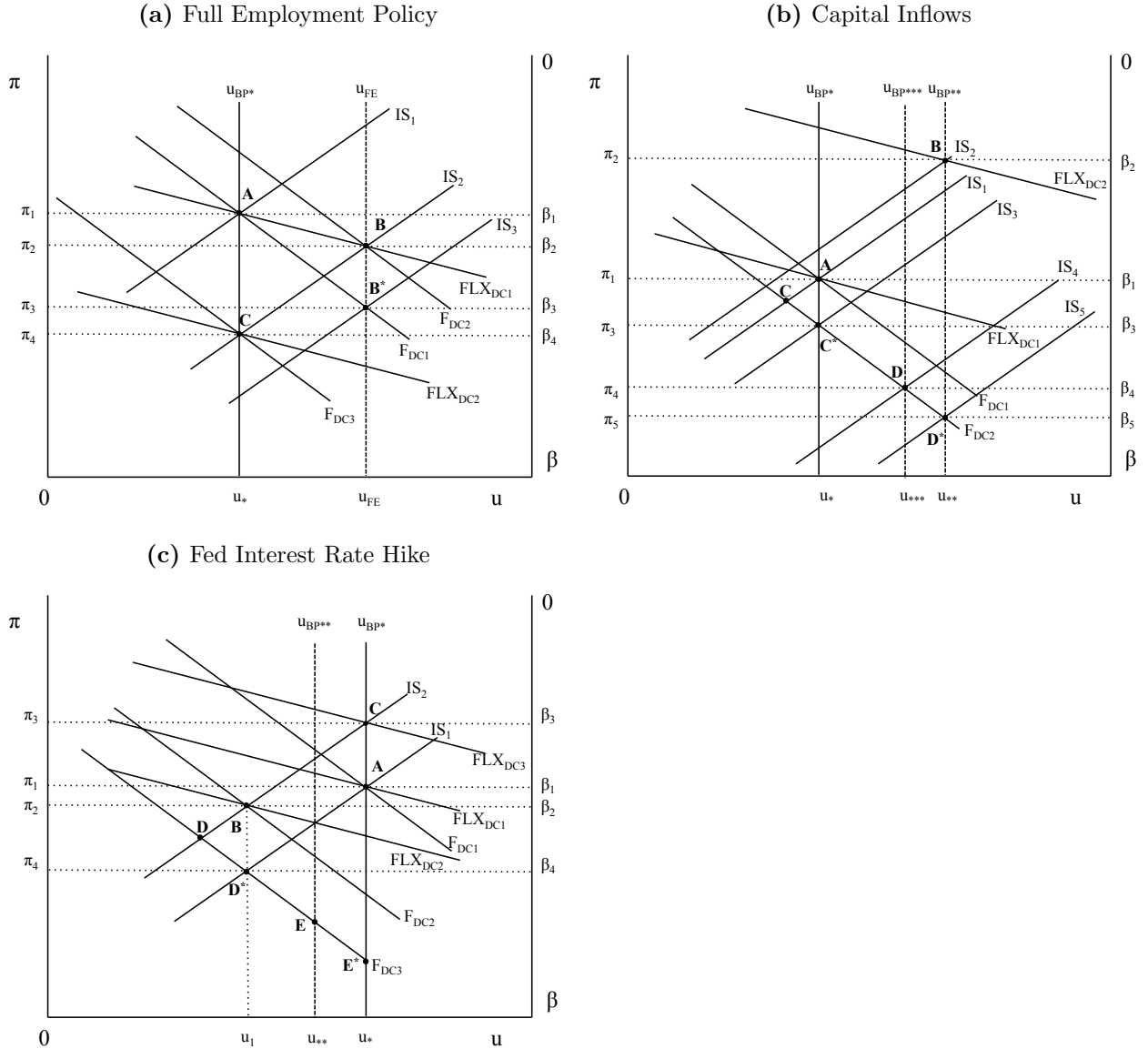
that is consistent with (BP) equilibrium. The new short-run equilibrium is now (A)—a trade surplus. In the flexible exchange rate regime, the inflows lead to significant currency appreciation and shifts (FLX_{DC1}) to (FLX_{DC2}). The nominal appreciation reduces the price level and induces a small real appreciation, which shifts (IS_1) to (IS_2) to the new long-run equilibrium (B). The latter consists of a higher wage and profit share (u_{**}, π_2) but lower rent share (β_2). This is the well-known Dutch Disease effect—currency appreciation that crowds out net exports $(IS_1$ to $IS_2)$ and the consumption binge that follows improvements

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in the wage share.

In the fixed exchange rate regime, capital inflows are sterilized to maintain the exchange rate target. First, the monetary authority increases its target level of reserves, which shifts (u_{BP**}) to (B_{P***}) and second, through sterilization, (F_{DC1}) shifts to (F_{DC2}) leading to a short-run economic contraction at (C). This in turn depresses the price level and depreciates the real exchange rate, which expands demand to (IS_3) and results in the new short-period (C^*). Our model shows that sterilizing capital inflows does not affect the real economy but creates a (BP) surplus and increases bankers' rent share at the expense of profit share. If the central bank decides to engage in compensation as a tool to maintain the target bid-ask spread then (F_{DC1}) shifts to (F_{DC2}) to the new short-period (C^*). The differential outcome between the two strategies is the size of the trade surplus. Compensation leads to a wider surplus $(u_{**} - u_*)$ as compared to the accumulation of reserves $(u_{***} - u_*)$. The long-run equilibrium of internal and external balance can be obtained at (D) and (D^*) through fiscal expansion, which depends on fiscal rules when the capital inflows are commodity revenues. Long-run equilibria (D) and (D^*) are likely to be associated with significant consumption since both wage and rent share increase at the expense of profit share, which undermines capital accumulation.

In panel C we derive results for the case when the US Federal Reserve increases its long-term interest rate. Initial equilibrium is both internal and external balance at (A). An increase in the foreign interest rate contracts demand and shifts (IS_1) to (IS_2) and increases bankers' rent share—shifts the distributive curve downwards. In the flexible exchange rate regime, (FLX_{DC1}) shifts to (FLX_{DC2}) leading to an economic contraction at (u_1) and a short-run trade surplus at (B). Market expectations of a currency appreciation shifts (FLX_{DC2}) to (FLX_{DC3}). The economic contraction and the nominal currency appreciation leave the real exchange rate unchanged so that the new long-run equilibrium is (C)—no change in the real economy but increases in profit share at the expense of rent share.

In the case of a fixed exchange rate regime, (F_{DC1}) shifts to (F_{DC2}) to the short-run period (B)—economic contraction to (u_1), a trade surplus and an increase in rent share at the price of lower wage and profit share. As the surplus pressures the exchange rate to appreciate, the monetary authority increases its target level of reserves to maintain the peg and shifts (u_{BP*}) to (u_{BP**}). Through sterilization, (F_{DC2}) shifts to (F_{DC3}) and produces a deeper contraction at (D). This in turn depresses the price level, depreciates the real exchange rate and stimulates demand to (IS_1). The new short-run (D^*) consists of a higher

rent share (β_4) and employment (u_1). It follows that a Fed interest rate hike produces significant economic contraction and a redistribution of income in favour of the banker class under managed/fixed exchange rate regimes. These results are the same if the peg is maintained through compensation. Long-run equilibrium of internal and external balance can be obtained at (E) and (E^*) through extensive fiscal expansion, which is likely to lead to higher debt levels in addition to those incurred through sterilization/compensation.

4.4   Taking Stock II

We now take stock of our new results. First, under flexible exchange rate systems, fiscal policy does not affect the real economy in the long-run but only redistributes income. This means that SVOEs with flexible exchange rate regimes are completely devoid of policy-levers to influence the performance of their economy, say, reducing Keynesian unemployment. We have already explained why indirect monetary policy is ineffective (see section 2.2.1). Second, the Mundell-Fleming result of effective fiscal policy under fixed exchange rate systems only holds for accommodative monetary policy, where the monetary authority loses reserves and credibility. Non-cooperative monetary policy in terms of banker compensation makes fiscal policy under fixed exchange rate regimes completely ineffective. Thus, we find that SVOEs under both fixed and flexible exchange rate systems cannot influence the level of employment in their economies in the long-run or very long-run (in the case of accommodative monetary policy). Moreover, we find that any attempt to reduce unemployment only increases bankers' rent share in the long-run under both fixed and flexible exchange rate systems. Third, fixed exchange rate systems are effective at neutralizing Dutch Disease effects but at the price of a short-term economic contraction and higher (lower) rent share (profit share). Fourth, a Fed interest rate hike produces a short-term economic contraction under both fixed and flexible exchange rate regimes but the latter recovers in the long-run with a redistribution of income partial to capitalists. Due to the redistributive effects of sterilization, the economic downturn is deeper under fixed exchange rate systems and only fiscal expansion can restore internal and external balance in the long-run. Thus, a Fed interest rate hike is contractionary and increases the level of indebtedness.

5 Conclusion

We present a very simple macro model to tackle the more pertinent questions in small, very open economies (SVOEs); relating to internal and external balance, full employment, distribution, the domestic price level and indebtedness. Three assumptions are fundamental to our model. First, we assume that our SVOE produces one tradable good with comparatively low income and price elasticity of demand in world markets. This locates our economy within the lower ends of the global production and technology matrix in the world division of labour and by extension, in the world distribution of income. Our economy is thus subjected to severe external shocks, say, commodity price volatility. Second, the production of both tradable and non-tradable goods/services are import intensive, which makes foreign exchange the economy's achilles heel. Third, and most fundamental among these is the assumption of oligopolistic banks that exercise market power in the loan, foreign exchange and bond markets. When these assumptions hold, as they do for many SVOEs and other peripheral countries, our results show that the economy loses policy autonomy and effectiveness at stabilizing the economy at a socially acceptable equilibrium.

More concretely, we demonstrate that economic stagnation—even when Keynesian unemployment is binding—is necessary to restore internal and external balance. Predictably, wage share falls but we find that the presence of oligopolistic banks also increases rent share, forcing a downward adjustment in the profit share. It follows that the consensus finding of devaluation increasing profit share is not applicable in SVOEs when oligopolistic banks are the dominant traders in the foreign exchange market. Competitive devaluations redistribute income to the rentier/banker class—allowing bankers to profit without intermediation—and therefore, negates any economic stimulus. Even if by happy coincidence internal and external balance are obtained, we illustrate how adverse exogenous shocks lead to the twin deficits and dictate that SVOEs fall on their proverbial sword—to re-establish internal and external equilibrium at a lower level of output and employment. Moreover, we find that the form of *blood-letting*[11] is wholly consequential for income distribution. Austerity increases the profit share but contracts wage and rent share, while devaluations and/or monetary sterilization increase bankers' rent share but depress the remainder of the income distribution.

These dismal findings were the economic bases of contesting political ideologies in periph-

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[11]The standard medical practice in the Middle Ages of withdrawing blood from a patient to prevent or cure an illness.

eral countries during the 1960s-70s and led to the nationalization of industry and banking in many countries in Africa and Latin America and the Caribbean. But due to political corruption, the impossibility of planning the greater share of an economy, external intervention and an absence of essentials like education and private ingenuity; earlier attempts to reclaim policy sovereignty failed to alter the harsh social and economic calculus. Marx once noted that history repeats itself first as tragedy, then as farce. It is anyone's guess how it might repeat itself this time as crises grip peripheral economies in the Caribbean, Latin America and Africa.

Like the descendants of Keynes, who were doomed to think for themselves on the matter of the long-period, so is this generation burdened with the responsibility of speculative imagination on the productive possibilities of SVOEs. For the history of capitalism is not written by the inclusive development of SVOEs (as we have defined them) and the period of controlling the *"commanding heights of the economy"* is of little utility. Presently, the policies of internal and external devaluations only reinforce the harsh social and economic calculus in SVOEs and provide a mirage of adjustment until another round of blood-letting is needed. In our view, the (IS-DC) model is a small step in reigniting the conversation about the productive possibilities of SVOEs.

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Table 1: Effects of Parametric Changes

	π_{IS}	π_{DC}	u_{BP}
Fiscal Balance, G-T	$-$	0	0
Foreign interest rate, r_F	$+$	$-$	0
Exchange rate spread, e-e_b	$-$	$-$	0
Central bank's target reserves, $R^T - R$	0	$-$	0
Foreign demand, u_F	$-$	0	$+$
Real exchange rate, θ	$-$	0	0
Capital account, CA_0	0	0	$+$
Exogenous net external demand, $X_0 - M_0$	0	0	$+$