On Effective Demand and Structural Conflict

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Abstract

This paper develops a theory in which the distributive struggle between firms and workers is incorporated into the Keynesian principle of effective demand. I construct this argument within the D/Z model by employing the "conflicting claims" approach. I examine each aspirational gap individually before arriving at an overall conflict wage adjustment. I demonstrate that any capitalist society contains a *structural distributive conflict*. I also show how a system may expand stably while systematically harming workers through regressive redistribution. As a result, a *distributive consensus regime* that may evolve with stability and equality between both sides is suggested.

Key words: effective demand; conflicting-claims approach; distributional conflict; macroeconomic stability. *JEL code*: E12, E25, C61.

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1 Introduction

This paper attempts to include the logic of distributive conflict within the trial-and-error temporal setting that surrounds the Keynesian principle of effective demand. These are components that are missing from his original idea (Keynes' *General Theory* third chapter); nonetheless, it appears that they are missing from modern research as well (e.g., Davidson, 2011; Blecker and Setterfield, 2019), either for pedagogical reasons (or approaches) or simple omission. This point is critical since incorporating these factors allows me to draw complimentary (but somewhat different) conclusions to the current ones as well as contribute new concepts to the specialized distributional-growth literature.

To accomplish this, in the next section (2), I add the time component to the Keynesian D/Z model and assume that establishing effective demand prices and wages are two separate situations. I next illustrate how an autonomous demand shock intertemporally alters these equilibrium prices and wages. In other words, an autonomous shock might make it harder for equilibrium prices to match with those of "market realization", thus disrupting the "trial and error" process. However, because both prices adjust at the same pace, there is no distributive conflict.

Then, in section 3, the "conflicting claims" approach is used to include the antagonistic rationale between firms and workers. To begin, each aspirational gap is evaluated in partial terms, with the goal of eventually arriving at a wage adjustment that incorporates the overall conflict. The value taken by the elasticities of each sector will determine the intertemporal adjustment of each "aspirational gap". It is demonstrated here that partial aspirational convergence happens only when these elasticities are smaller than unity. Otherwise, effective demand' wages and prices adjustment are either steady or explosive.

From the preceding, it follows in the 4th section the establishment of a *structural distributive conflict* that reflects a minimum wage and inflation adjustment even if neither party has any capacity to alter their objectives. In other words, as long as there are unfulfilled aspirational gaps, there will be a latent wage adjustment that can occur in both stable and unstable environments. This finding is noteworthy because it reveals that even in dynamically stable development situations and with workers' goals realized, distribution can be regressive in the long run. In other words, the long-term real wage is not fixed and is determined by the adjustment elasticities of each class's aspirations.

As a corollary, it is claimed that the ideal growth scheme is one of *distributive consensus*, in which each party must have a sense of fairness in the allocation of surplus in order to expand the economic system with equity.

In section 5 some last remarks bring the work to an end.

2 A D/Z Keynesian effective demand model

The economic system depicted here is an attempt to encompass the analytical categories disclosed by J. M. Keynes ([1936], 1956), using the interpretation given by Weintraub (1958) and Davidson (2011) of these concepts. Namely, in the first place, the aggregate supply function $Z_t = \Phi(N_t, t)$ is defined as the link between the revenue that entrepreneurs anticipate earning tomorrow and the volume of employment N today required to create a set of goods that meet those expectations. In the second place, the aggregate demand function $D_t = D(N_t, t)$ depicts the relationship between all purchasers' estimated spending for each level of N. Now, the inclusion of the temporal dimension t emphasizes that the adjustment to equilibrium is a "trial and error" dynamic process; this is something that Keynes explicitly excludes in the third chapter of his *General Theory*, and which Kregel (1976) and Possas (1986) lucidly warn against.

In respect of how much volume *N* to employ

$$N_t = N\left(p_t, W_t\right),\tag{1}$$

it is the temporal outcome of two *ex-ante* decisions: a) the respective (nominal) wage negotiation between entrepreneurs and workers, W_t ; and b) the price decision p_t at which to sell products and services in the economy. That is, the real wage is a result of these instances, i.e. of the productive process and it will be "correctively" adjusted period by period. The level of effective demand in this adjustment dynamic can coincide with the balance between expectations and *ex-post* market realization. However, this correspondence does not always hold over time.

According to the preceding, the following effective demand wages and prices proposition can therefore be formulated: the rate of change of equilibrium effective demand wages W_t^* and prices p_t^* is equal to the difference between the autonomous expansion of aggregate demand δ and supply ς , divided by the product of a) the sum of the elasticity of equilibrium general price level π - and nominal wage ω -volume of employment, and b) the difference between the elasticity of aggregate supply σ - and demand ε -volume of employment.

The intersection of supply and demand that would eventually *ex-ante* define the level of effective demand (that is, following Possas, 1986, independent of its *ex-post* fulfillment) is given by

$$D(N(p_t^*, W_t^*), t) - \Phi(N(p_t^*, W_t^*), t) = 0,$$
(2)

whose equilibrium notion should not be interpreted as a global equilibrium in the Walrasian sense¹, since precisely not all resources are employed. Rather, as the moment at which entrepreneurs' expectations are consistent with one another (Hartwig, 2007).

Now, to see changes in the equilibrium position over time, the expression (2) is completely differentiated, so that after assuming $Z_t = D_t$ is fully met in equilibrium and later than performing additional algebraic manipulations, we get

$$(\omega \cdot \Delta W_t^* / W_t^* + \pi \cdot \Delta p_t^* / p_t^*) (\sigma - \varepsilon) = (\delta - \varsigma) \Delta t.$$
(3)

If we assume that effective demand equilibrium prices and wages rise at the same pace, we obtain the formulation announced in the proposition above

$$\hat{W}_t^* = \hat{p}_t^* = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}.$$
(4)

This outcome is significant because it demonstrates that an autonomous expansion of both

¹That is to say, a point at which all markets are cleared.

demand and (negatively) supply² has the potential to positively shift effective demand equilibrium level prices and wages over time (t = 0, 1, ..., n)

$$p_{t+1}^* = \left(1 + \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}\right)^{t+1} p_0^*,\tag{5}$$

likewise

$$W_{t+1}^* = \left(1 + \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}\right)^{t+1} W_0^*.$$
(6)

It is worth emphasizing that such a once-and-for-all autonomous expansion has the potential to translate prices and wages indefinitely, as long as no subsequent shock in the opposite direction counteracts such an initial impulse. Note that the adjustment happens after the new decision-making process (in t + 1). This is because decisions are made following the *ex-post* "market realization" in which the imbalance (caused by both demand or supply autonomous expansions) is made clear, altering expectations.

Clearly, this increase does not include any change in the distribution of wealth between workers and entrepreneurs, since the corrective adjustment period by period that involves both sides' decision-making occurs at the same rate. In the following part, we will look at the distributional issues that such a shock might produce in the system.

3 A conflicting-claims approach model

In this part, I adapt the "conflicting claims" approach to the previously discussed dynamics. It is shown that the stability (instability) of a partial conflict is positively related to the overall conflict's stability (instability), but such a partiality result does not necessarily imply the general outcome.

Workers

Following Rowthorn's (1977) strategy, among other articles of similar nature³, the evolution of the workers' "aspiration gap" proposed here assumes the simplest linear form

$$\hat{W}_t^* = \hat{s}_{W,t} - \hat{w}_t,\tag{7}$$

where we will assume that the effective demand equilibrium wage adjustment is conducted in each period as the difference between the target wage $\hat{s}_{W,t}$ and the realized (negotiated) wage variation \hat{w}_t . Or, to put it another way, the aspiration gap of workers is determined by the market's supply and demand context.

The objective (or aspirational) wage s_W is an unobservable variable whose value is determined by cultural, institutional, and historical considerations, among many other elements. In terms of our model, one alternative to suit this plight is to believe that the informal salary in the economy is a function of that target $\iota_t = f(s_{W,t-1})$; this is because the informal remuneration

²In our approach, by the way, worldwide inflation triggered by the pandemic outbreak can be conceived of as a negative autonomous shock to supply.

³For example, see Blecker (2011), Blecker and Setterfield (2019) and Bastian and Setterfield (2020).

must reflect, at the very least, the ambitions aspired to by the social structure. For the sake of simplicity, we will suppose that the shift in aspirations is not instantly reflected in informality, but rather takes one period of time. On the other hand, following Skott (2021), it is considered that the realized (formal) wage is a function of the informal wage $w_t = g(\iota_t)$, and that its impact is rather quick, occurring during the same period.

As a result of the preceding, it is concluded that an increase in social aspirations would result in a positive change in the informal sector's compensation, which would then positively affect the wages negotiated by the formal sector

$$\hat{\iota}_t = \Sigma \cdot \hat{s}_{W,t-1} \tag{8}$$

$$\hat{w}_t = \Omega \cdot \hat{\iota}_t,\tag{9}$$

where Σ and Ω are the elasticity of informal remuneration with respect to social aspirations and the elasticity of realized wages with respect to informal remunerations, respectively. Now, two expressions can be derived from the above

$$\hat{s}_{W,t+1} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} + \mathcal{W}\hat{s}_{W,t}$$
(10)

$$\hat{w}_{t+1} = \left(\frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} + \hat{w}_t\right) \mathcal{W},\tag{11}$$

which provides us the fundamental equations of workers aspirations, where $W \equiv \Sigma \Omega$ for simplicity. That is, changes in the effective demand equilibrium wage will be the average outcome of changes in social aspirations and the realized market (formal) wage. An autonomous expansion in "today's" demand will have a positive impact on the adjustment of aspirations and wages "tomorrow", in the next cycle of decisions after the adjustment of expectations. Four instances are generated from this, which dynamically influence the workers' aspiration gap.

Case 1, W = 0. The degree of transmission of either or both elasticities is zero in this scenario. As a result, the solutions to (10) and (11) are as follows

$$\hat{s}_{W,t} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}$$
(12)

$$\hat{w}_t = 0, \tag{13}$$

where it is noted that the variation of the effective demand equilibrium wage represents a minimum because it is established solely by an independent variation of aspirations directed by market supply and demand autonomous pressures. Therefore, if from the workers' aspiration gap perspective we assume an equilibrium price adjustment according to (4), then the redistribution is maximum for the firms. Under these conditions, the market realization wage adjustment is zero; yet, there is a *structural wage pressure* driven by cultural components inherent in any society. *Case 2*, 0 < W < 1. This is an intermediate instance in which the aspirational and market realization wage adjustments converge in the long run to their intertemporal equilibrium

$$\hat{s}_{W,t} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} \left(1 + \mathcal{W} + \mathcal{W}^2 + \ldots \right) = s_W^* \tag{14}$$

$$\hat{w}_t = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} \left(1 + \mathcal{W} + \mathcal{W}^2 + \ldots \right) \mathcal{W} = w^*, \tag{15}$$

independent of the force with which the autonomous market supply and demand shock occurs. In other words, we may say that this is the only situation in which the worker's aspiration gap stabilizes asymptotically in the steady-state over time. The wage adjustment is clearly bigger under this hypothesis than under the first, but the redistributive effect of an autonomous demand shock is unclear. The equilibrium wage is adjusted here based on the workers' aspiration gap specified by (7) $\hat{W}_t^* = \hat{s}_{W,t} - \hat{w}_t$. According to the notion of equilibrium, prices should be assumed to change at the same pace, but from this partial perspective, the elasticities of the firms' aspiration gap are unknown.

Another depiction of the general solution can also be thought as

$$\hat{s}_{W,t} = \hat{W}_t^* \left(1 - \mathcal{W} \right)^{-1} \tag{16}$$

$$\hat{w}_t = \hat{W}_t^* \mathcal{W} \left(1 - \mathcal{W} \right)^{-1},$$
(17)

where W behaves as a *multiplier factor of the workers' aspiration gap* whose efficacy depends on whether $W \ge 0.5$. Note that \hat{W}_t^* represents features of the real economy, i.e., the point of intersection between the entrepreneurs' expectations and the decision of how much to produce, whereas W represents workers' capacity to make their objectives effective.

Case 3, W = 1. In this situation of strong adjusting power, workers' ambitions and realized market wages evolve at the same rate. $\hat{s}_{W,t}$ and \hat{w}_t 's general solutions describe a mobile equilibrium within time and are reduced to⁴

$$\hat{s}_{W,t} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}t + \hat{s}_{W,0}$$
(18)

$$\hat{w}_t = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} t + \hat{w}_0, \tag{19}$$

where the rate of aspiration gap adjustment is a maximum "ceiling" at a constant $\Delta \hat{s}_{W,t} / \Delta t = \Delta \hat{w}_t / \Delta t = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}$.

It should be emphasized that the multiplicative component W = 1's nature precludes the gap from reaching s_W^* and w^* , resulting in a permanent divergence from the mobile equilibrium. In this sense, the course of the aspiration gap under these conditions is divergent, and

$$s_{W}^{*} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} \left(\mathcal{W} + t \left(1 - \mathcal{W} \right) \right)^{-1}$$
$$w^{*} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} \mathcal{W} \left(\mathcal{W} + t \left(1 - \mathcal{W} \right) \right)^{-1},$$

respectively.

⁴It must be noticed that the specific solutions of (10) and (11) in this situation have the form

redistribution operates in favor of workers in the face of an independent shock.

Case 4, W > 1. In the latter scenario, the sensitivity of the adjustment is excessive since at least one of the elasticities must be greater than the inverse of the other, resulting in an explosive temporal trajectory of the gap. The adjustment process is given by

$$\lim_{t \to \infty} \hat{s}_{W,t} = +\infty \tag{20}$$

$$\lim_{t \to \infty} \hat{w}_t = +\infty, \tag{21}$$

which leads us to conclude that the effective demand equilibrium wage adjusts at an infinite rate in the limit. It is sufficient to have a minimal positive margin between autonomous demand and supply to release workers' expectations, which will adjust at an increasing rate until it reaches "infinite". The instability of this situation in the long run is demonstrated by the fact that the gap will never be filled, which I suppose would cause severe cost (and redistributive) issues, posing a risk to production decisions.

Firms

From the perspective of the entrepreneurs, we also assume that the effective demand equilibrium price variation is led by an aspiration gap

$$\hat{p}_t^* = \hat{w}_t - \hat{s}_{F,t}, \tag{22}$$

whose discrepancy is led between the realized market wage bargained with the workforce \hat{w}_t and an "ideal" price vector $\hat{s}_{F,t}$; this setting may be motivated by profit sharing or mark-up targets.

Using Rowthorn (1977)'s hypothesis, we will assume that this last variable is a function of the economy's installed capacity $s_{F,t} = f(u_t)$, which adjusts in the same period given the enterprises' decision-making capacity. In turn, we suppose that such installed capacity is a positive function of wages $u_t = g(w_{t-1})$, and its adjustment occurs (via the aggregate demand function) with a period of difference since utilization adjusts gradually.

Consequently, a positive variation in aggregate demand as a result of a wage rise will result in a delayed increase in the economy's capacity utilization. The increased utilization will therefore have an effect on the vector of target prices

$$\hat{u}_t = \Theta \cdot \hat{w}_{t-1} \tag{23}$$

$$\hat{s}_{F,t} = \Psi \cdot \hat{u}_t,\tag{24}$$

Here, Θ and Ψ are the elasticity of capacity utilization with respect to wages and the elasticity of target prices with respect to capacity utilization, respectively. Using the same procedure as

before, we get then our fundamental equations

$$\hat{w}_{t+1} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} + \mathcal{F}\hat{w}_t$$
(25)

$$\hat{s}_{F,t+1} = \left(\frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)} + \hat{s}_{F,t}\right) \mathcal{F},$$
(26)

where $\mathcal{F} \equiv \Theta \Psi$. As in the case of workers, the variation of effective demand equilibrium prices will be the average of the (formal) market wages bargained with the workers, but also with regard to the change of the target price vector. This perspective generates four additional adjusting instances.

Case 5, $\mathcal{F} = 0$. In this particular scenario, the values adopted by solutions (25) and (26) are as follows

$$\hat{w}_t = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}$$
(27)

$$\hat{s}_{F,t} = 0, \tag{28}$$

where the change in the effective demand equilibrium prices adjust immediately, at a minimum rate, clearly enforced by the *structural pressure* produced by wage adjustment. Resultantly, in the face of an autonomous demand shock, workers will benefit from redistribution.

Case 6, $0 < \mathcal{F} < 1$. In this intermediate condition, I will define the gap adjustment directly in terms of the *multiplier factor* \mathcal{F}

$$\hat{w}_t = \hat{p}_t^* \left(1 - \mathcal{F} \right)^{-1} = w^* \tag{29}$$

$$\hat{s}_{F,t} = \hat{p}_t^* \mathcal{F} \left(1 - \mathcal{F} \right)^{-1} = s_F^*, \tag{30}$$

where the adjustment of effective demand equilibrium prices is according to the firms aspiration gap $\hat{p}_t^* = \hat{w}_t - \hat{s}_{F,t}$. As with workers gap mechanics, here the intensity of the adjustment will depend on whether $\mathcal{F} \ge 0.5$, allowing the system to converge to the steady-state in the long run. This is the only stable scenario in which the gap setting is stationary according to s_F^* and w^* .

Case 7, $\mathcal{F} = 1$. Here, the adjustment of effective demand equilibrium prices does not converge since wages and target prices evolve at a constant pace provided by the solutions⁵

$$\hat{w}_t = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}t + \hat{w}_0 \tag{31}$$

$$\hat{s}_{F,t} = \frac{(\delta - \varsigma)}{(\pi + \omega)(\sigma - \varepsilon)}t + \hat{s}_{F,0}.$$
(32)

In other words, under this hypothesis, the fluctuation in the firms' aspiration gap develops constantly together with effective demand equilibrium price changes. Clearly, this is an inflationary environment in which employees suffer from income distribution in the face of an exogenous positive demand shock.

 $^{^{5}}$ We use here the same approach as described in footnote 5.

Case 8, $\mathcal{F} > 1$. In this case, the economy would experience hyperinflation in the long run. Obviously, it is not a desirable environment for both distributional and macroeconomic stability reasons. From this vantage point, this is an unstable scenario since it exhibits an explosive trajectory over time. However, as we shall see in the following section, even with $\mathcal{F} > 1$, the system can be stable, but only at the price of a gradual regressive distribution of the workers.

4 Towards a general aspiration gap equilibrium

The scenarios of partial aspiration stability and instability discussed above do not provide much information about how the conflict acts on a systemic level. As a result, I propose here to investigate the general stability of the conflict. To do this, I combine each negotiated market realization wages of each partial aspiration (11) and (25) into a single expression

$$\hat{w}_{t+2} = \mathscr{C}\hat{w}_t + (1+\mathscr{C})\hat{W}_t^*, \tag{33}$$

which reflects the general wage adjustment of the aforementioned partial interactions. I symbolize $\mathscr{C} \equiv \mathcal{WF}$ for simplicity, and it is the root of our overall wage adjustment: *the root of the conflict*.

For the system to be stable, it is sufficient that $\mathscr{C} < 1$, which we know is positive from the previously announced elasticities. In other words, the wage adjustment in this circumstance converges to an intertemporal equilibrium point; otherwise, if $\mathscr{C} > 1$, the adjustment would be explosive. Considering our function's roots are real and different, because $\pm \sqrt{\mathscr{C}}$, the general solution of wage adjustment is provided by

$$\hat{w}_t = A_1 \left(\mathscr{C}\right)^{\frac{t}{2}} - A_2 \left(\mathscr{C}\right)^{\frac{t}{2}} + \frac{1+\mathscr{C}}{1-\mathscr{C}} \hat{W}_t^*, \tag{34}$$

where *A*'s are arbitrary constants and whose point of convergence is double. The first one is obtained at the origin, where the effective demand equilibrium wage rate of adjustment is zero (see Figure 1a). That is, the adjustment of workers' aspirations aligns with the realized market pay at that time. The other point is at the 45-degree curve ($\hat{w}_{t+2} = \hat{w}_t = \text{constant}$), when aspirations are positive. This results in four types of distributional regimes, as shown in Table 1.

Form	Distributional Regimes
$\mathcal{F} < 1/\mathcal{W}$	Led by firms aspirations
$\mathcal{W} < 1/\mathcal{F}$	Led by workers aspirations
$\mathcal{WF} < 1$	Led by consensus
$\mathcal{WF}=0$	Structural aspiration conflict

Table 1: Distributional regimes in a stable aspiration gap context.

In the first place, as illustrated in Figure 1b, it is concluded that in a context of positive

aspirational adjustment, even under the hypothesis that both workers and firms have zero adjustment in their preferences ($\mathscr{C} = 0$), there is a structural adjustment of the conflict, which is driven by market supply and demand forces. In other words, as long as aspiration differences remain, there will always be a force (which operates as a correction basis) for wage adjustment (and hence inflationary) latent in the growth of every capitalist society.

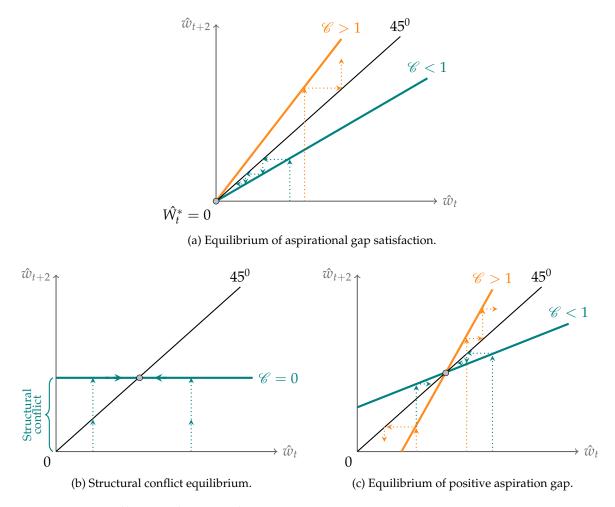


Figure 1: Different forms of equilibrium based on its distributional regimes. Note: the orange line represents an unstable equilibrium and the green line represents a stable equilibrium.

Second, in a situation of stable wage adjustment, the distributive issue might be driven by the objectives of the entrepreneurs, the workers, or promote a distributive consensus. Given that it is natural to believe that corporations have more power than employees, the model shows that it is absolutely viable for a society to progress steadily by regressively transferring the surplus against workers. This condition may also be thought to be a result of individuals' monetary illusion. This is an example of a *distributive system led by firm aspirations*. In this scenario, it is enough to have W less than one and \mathcal{F} bigger than one to establish a regime with these features (see Figure 1c). It is worth highlighting that even when workers' aspirations

are met ($\hat{W}_t^* = 0$), this situation might arise; that is, expand steadily with systematic positive redistribution in favor of the corporations.

As a corollary, it is critical to develop a growth plan based on mutual consensus –where both \mathcal{F} and \mathcal{W} are smaller than 1– because doing so would result in a macroeconomic system' stability, not at the expense of a regressive distribution for workers, but rather by recognizing their ambitions with equity.

5 Final comments

In this article, I attempt to demonstrate that in any society where there is distributive conflict (i.e., those who adhere to the capitalist system), steady development may be guided by autonomous demand shocks even when distribution is regressive for workers. In other words, the long-run equilibrium real wage of effective demand is not always given. This unfavourable redistribution can also occur under a system in which workers have closed their aspirational gap. Furthermore, I show that even if both workers and firms have zero capacity to satisfy their objectives, there is a *structural distributive conflict* that imposes a "floor" on wage adjustment (and, therefore, inflationary) effective demand equilibrium. When aspirational gaps are not filled, this systemic conflict will always prevail.

To explain the above, I present a new distributional taxonomy, from which it is argued that a regime with an "equitable" *distributive consensus* between firms and workers is the best for steady and fair growth.

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