Does Countercyclical Fiscal Policy Pay? The Relevance of Fiscal Acyclicality

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Abstract

Fiscal procyclicality in most emerging economies fuels output volatility and inflation and exacerbates debt problems. Only a few countries have been able to reform fiscal management away from procyclical policies. Previous research, however, focuses only on the two polar cases of countercyclical vs. procyclical policies, despite evidence that several countries follow an a-cyclical fiscal stance. This paper contributes to this discussion in three areas. The first contribution is to provide an economic rationale for a-cyclical fiscal policies as the optimal response of governments that must pay an intervention cost that may outweigh the benefits of a countercyclical policy. The second contribution of this paper is to provide a formal statistical test of fiscal cyclicality, which allows us to separate between three fiscal stances: procyclical, a-cyclical, and countercyclical. The third contribution is an assessment of the impact of each view on several macroeconomic variables (output instability, price instability, long-run economic growth, and fiscal sustainability) for a worldwide representative sample of 148 countries in the period 1990-2019. Contrary to conventional wisdom, our findings suggest that an acyclical fiscal stance is superior in fostering growth and reducing the variance of the business cycle vis-à-vis a countercyclical policy, which is better than a procyclical policy. On the other hand, a countercyclical fiscal policy reduces inflation volatility, while the public debt level is not different for the three groups of economies.

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1. Introduction

Stabilization is one of the primary goals of macroeconomic policy. Nevertheless, governments in emerging economies tend to reduce expenditures during economic downturns and increase expenses during booms, a phenomenon dubbed the "procyclicality of fiscal policy." This behavior has been linked to several economic malaises. To the extent that it reinforces the business cycle and increases volatility, fiscal procyclicality has been linked to lower economic growth (Aghion and Marinescu, 2008; Woo, 2009; Aghion et al., 2010; Choi, Furceri and Jalles, 2022), higher inflation levels (McManus and Ozkan, 2015), lower welfare for households unable to smooth out income shocks (Aguirre, 2020), and to unsustainable levels of public debt (Alberola et al., 2006).

The majority of advanced countries, on the other hand, tend to display countercyclical fiscal policies as a result of automatic stabilizers and discretional expenses that significantly dampen business cycles. Nevertheless, there is a third policy alternative –largely neglected in the theoretical and empirical literature—that countries may pursue an acyclical fiscal stance, i.e., that they find more convenient neither to lean against the wind nor to follow the whims of economic activity.

This paper focuses on the role of acyclical fiscal policies and empirically assesses their effects vis-à-vis countercyclical and procyclical fiscal policies on stabilization, fiscal sustainability, and economic growth. We make three contributions.

We first provide an economic rationale for acyclical fiscal policies, derived as an optimal response of governments that must pay an intervention cost that outweighs the benefits of countercyclical policies, i.e., undoing the negative aspects of economic shocks. This, in turn, allows us to redefine the relevant states of nature for fiscal policy and provide a new, extended taxonomy that significantly enriches the analysis of the co-movements between fiscal spending and the business cycle.

While there are theoretical reasons and overwhelming empirical evidence of the detrimental impacts of procyclical fiscal policies, budgetary authorities do not necessarily aim at countercyclicality in practice. As discussed below, revealed preferences (as

expressed, for example, in fiscal rules) indicate that many economies may be more comfortable following acyclical fiscal policies than implementing countercyclical measures. For example, Chile's fiscal rule of a cyclically adjusted structural balance aims at achieving an a-cyclical fiscal stance over the business cycle and does not consider actively pursuing counter-cyclical goals (see Fuentes et al., 2021).

The textbook countercyclical fiscal policy would require continuous adjustment to the fiscal stance, but a cost-benefit analysis of interventions suggests that policymakers should only stabilize significant shocks and ignore small ones when there is a cost to intervention. Moreover, undertaking recurrent discretionary countercyclical measures is challenging due to the lack of real-time data, significant and variable lags in the economy's response to policy changes, unknown size of fiscal multipliers, and political constraints on reducing expenditures/transfers when contractionary policies are needed. Higher levels of uncertainty raise the cost of interventions to the point that they may outweigh the benefits when shocks are of small magnitude, thus calling for policy idleness.

Once accepted that countries might pursue acyclical budgetary policies, the knowledge of procyclicality's causes and effects comes into question. Copious evidence suggests that developing economies tend to follow procyclical fiscal policies while, in contrast, industrial countries have implemented countercyclical budgetary policies. However, such a conclusion relies on a binary classification of the fiscal stance —either a country is procyclical or countercyclical— neglecting the possibility of acyclical budgetary policy and may be an inadequate stepping stone for the analysis of the macroeconomic consequences of the fiscal stance.

The second contribution of this paper concerns the empirical assessment of fiscal procyclicality. This is customarily based on estimating the correlation between the cyclical components of real government expenditures and real GDP (Frenkel et al., 2013, Ardanaz and Izquierdo, 2022, among many others). The literature has largely ignored that such correlations are sample-based and that statistical significance tests are necessary. In an influential paper, Frankel et al. (2013) classified countries as following a

countercyclical (procyclical) fiscal policy when the estimated correlation in a given period is negative (positive), independent of the magnitude of such estimate. For example, France is classified as procyclical in the period 2000-2009 because the estimated value of the correlation is a mere 0.04. We provide a formal statistical test of significance for correlations, allowing us to separate between three states: procyclical, a-cyclical, and countercyclical fiscal stance. Application to a worldwide representative sample of countries indicates that the received knowledge about procyclicality may be at fault.

Furthermore, we extend previous analyses to consider events that occurred during the 2010s that may have been influential in the conduct of fiscal policy. In particular, the case of economies operating around the zero-lower bound of policy interest rates (or under the non-orthodox policies of quantitative monetary easing), which rendered monetary policy largely ineffective and left the fiscal authority as the sole responsible for macroeconomic stabilization.

The third contribution of this paper is to provide global empirical evidence that, in some dimensions, an acyclical fiscal policy could be preferable to countercyclical policies and the latter to procyclical ones. We challenge the notion that countercyclical policies are uniformly preferred to any other form of fiscal management. We focus on four key macroeconomic variables, including economic growth, volatility of economic growth, price instability, and fiscal sustainability (as reflected in government debt). Unconditional and conditional regression analyses indicate that, while countries relying on countercyclical fiscal policies display price instability than acyclical budgetary management, the opposite is true when analyzing economic growth and the variance of the business cycle. On the other hand, economies that follow procyclical policy perform poorly in term of both indicators. Regarding and government debt, the evidence is inconclusive.

The paper continues as follows. Section 2 introduces a simple conceptual framework to comprehend the benefits of pursuing an acyclical fiscal stance. Section 3 summarizes the new taxonomy built from the definition of the fiscal stance and the application to 148 economies. Section 4 presents the main statistical results of the effects

of the type of budgetary approach on inflation volatility, growth volatility, and debt level. Section 5 concludes.

2. Conceptual Framework

There is now wide consensus that fiscal procyclicality can be detrimental to economic stabilization and public finance sustainability. This does not automatically imply that countercyclical fiscal policy is a better alternative or that it has universal application. Moreover, if one allows for a third option in the form of acyclical policy—a case that would characterize several countries—it becomes quite unclear which policy should be the preferred choice for policymakers.

Most of the literature does not consider the possibility of acyclical policy as a goal of policymakers. When confronted with the data, the correlation between the business cycle and the fiscal stance in many economies (measure by government expenditures, revenues, or the fiscal balance) is very small. As shown below, a small positive (negative) correlation between government expenditures and business cycles observed over a period of time should not be considered prima-facie evidence that the country has a procyclical (countercyclical) fiscal policy.

Most studies focus on the procyclicality of government spending because tax receipts are endogenous concerning the business cycle. Some studies focus on discretionary government expenditures, i.e., those expenditures that are not pre-committed by the government for specific countercyclical use (such as unemployment benefits and transfers for those negatively affected by shocks).

An essential reason for procyclical spending is that government receipts from taxes or mineral royalties rise in booms, and the authorities cannot resist the temptation or political pressures to increase spending proportionately or even more than proportionately (Tornell and Lane, 1999). A similar procyclical pattern can be found on the tax side by focusing on tax rates rather than revenues, though cross-country evidence

is harder to come by. Vegh and Vuletin (2012) find that tax rate policy has been primarily procyclical in developing countries and acyclical in industrialized nations.

The mechanism that we have in mind is the following. In most countries, Congress approves the fiscal budget for the following year at the end each year (or there is some form of planning for government outlays for the subsequent year). This introduces a menu cost in the conduct of the budgetary policy. The government has to pay a specific cost to drift away from the approved budget. Imagine that the government's objective function is to avoid output deviations from the full-employment output. The government applies a countercyclical policy if the economy diverges from full employment.

Assume that government minimizes a simple loss function:

$$L = \alpha(y_t - y^*)^2 \tag{1}$$

where y_t is the (log) detrended current output and y^* is the (log) detrended steady-state output. A reduced form of the deviation of the current level of production from its steady state has the following format:

$$y_t - y^* = z_t + \theta(g_t - \bar{g}) + (a_t - \bar{a}) \tag{2}$$

where z_t represents a stochastic shock with zero mean and constant variance, g_t is the (log) of government consumption, $\bar{g}$ is the level of government consumption consistent with the equilibrium output, a_t stands for other exogenous components of aggregate demand, and $\bar{a}$ is the level of a_t coherent with equilibrium output. We assume that government plans are consistent with the long-run level of output and that governments decide in advance (one year) the level of $\bar{g}$.

In a frictionless economy, it is easy to show that government will choose to deviate from the planned $\bar{g}$ to minimize the loss function, making the output gap equal to zero. That is to say:

$$(g_t - \bar{g}) = -\frac{z_t}{\theta}z_t - \frac{(a_t - \bar{a})}{\theta} \tag{3}$$

In the spirit of the dynamic (S, s) economies[1], imagine that government must pay a fixed cost (c_f) when deviating from the budgeted government outlays (we discuss the nature of this cost below). In this case, the government will not always intervene when there is a deviation of the optimal policy, choosing to remain idle instead of paying the intervention cost. Hence:

$$(g_t - \bar{g}) = \begin{cases} -\frac{z_t}{\theta} z_t - \frac{(a_t - \bar{a})}{\theta} & if\ \alpha(y_t - y^*)^2 > c_f \\ 0 & if\ \alpha(y_t - y^*)^2 < c_f \end{cases} \tag{4}$$

There is an inaction zone in which the government does not intervene as the economy departs from its steady-state level of output. But, if the departure is significant enough, the government chooses to intervene at the optimal response level given by equation (3), and the output gap is zero.

If the deviation of current output from the steady state is zero, the loss is minimized and the cost function reaches a value equal to zero, as shown in Figure 1. The dotted line, labeled c_f (cost of intervention), defines the government's action in three zones. For minor deviations, $|y_t - y^*| < \lambda$, the government does not intervene (this is the inaction zone) because the marginal cost of intervention is larger than the benefits of optimally changing the fiscal stance. This is not the case for large deviations, which would trigger the response of the fiscal authority. Of course, if the government pursues procyclical policies will further reduce welfare or increase the value of the loss function.

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[1] See Caballero and Engel (1991).

Figure 1. Reaction function of fiscal policy to the deviation of output from steady state
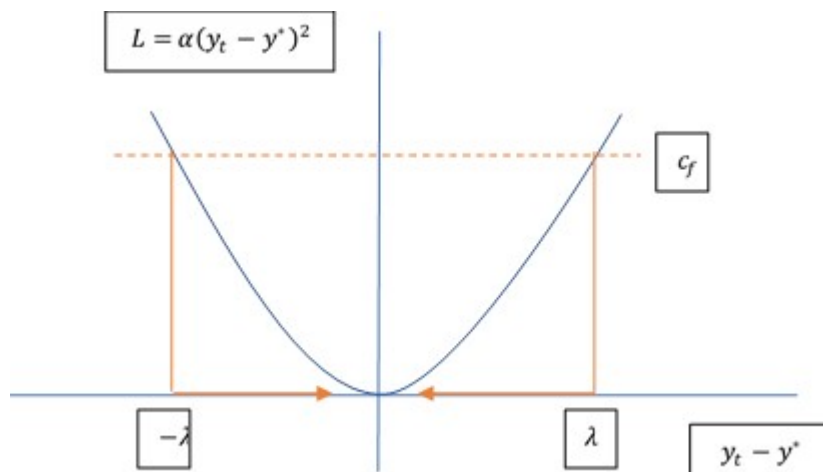
Two arguments justify the cost of intervention: economic reasons and political dynamics.[2] Without making an exhaustive list of issues, the main economic motivations are:

- *Uncertainty in several dimensions.* Most of the time, if not always, the government does not know the magnitude of the shock and lacks real-time data. Given uncertainty, it may not be optimal to intervene. If the shock is not persistent, it may be better to let the economy adjust rather than react to it. The strategy of wait and see is appropriate. Also, the government may have less information about the economy's structure or the lags of the effects than the private sector. In this case, a more prudent behavior would be recommended.

- *Lack of expertise.* Related to the previous one, when facing a shock, the government may find it preferable to delay its intervention because, in the absence of adequate knowledge, the policymaker does not know what policy will work best.

- *Indebtedness limitations.* Consider now a dynamic setting. The government must finance expansionary fiscal policy using debt, which puts pressure on fiscal sustainability. If the economy is highly indebted, then the cost of interventions is high, increasing the inaction zone. Under the constraint of zero lower bound for

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[2] For further details, see Drazen (2000).

the policy interest rate, the intervention price is lower because the cost of debt is negligible (Blanchard, 2019). In addition, the fiscal multiplier will be higher (Christiano et al., 2011, Ramey and Zubairy, 2018), which makes it more likely that the recovery of the economic activity will be strong enough to raise tax collection and compensate for the extra expenditures (Delong and Summers, 2012)[3]. Furthermore, and regarding precisely the topic of this paper, this literature suggests that during a period when interest rates are the zero-lower bound (e.g., the 2010s) is more likely to find a more active fiscal policy.[4]

There are also political arguments to understand the cost of intervention. The literature on inaction and delay when implementing a reform (summarized in Drazen, 2000) may shed some light on this respect.

- *Vested interest.* A reform is different than changes in fiscal policies, but the existence of vested interest applies too. The government (current or future) must finance expansionary fiscal spending. The group of people, who receive the benefits of this policy, could be different than those that bears the cost (current and future taxpayers). Therefore, there is a political cost (especially for politicians who want to remain in office) to implementing such a policy. A group would attempt to block the expansion if they perceived that they would have to pay for it. The government must decide the net gains regarding votes for following this policy. The political cost may lead to the inaction of the coalition in power. The argument also works in the case of a contractionary fiscal policy.

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[3] Several papers show that the size fiscal spending multiplier depends on the state of the economy. See for example, Auerbach and Gorodnichenko (2012), Coenen et al (2012).

[4] A note of caution is necessary at this point. It is a fact that shallow interest rate has prevailed around the world (at least before the pandemic), but the sensitivity of the funding supply could be very different for less developed economies than for developed ones. Considering the zero-lower bound interest rate period is relevant for the cross-section analysis.

3. New taxonomy and new evidence

This section presents the evidence regarding pro, counter, and acyclical fiscal policy. We collected data for 148 economies organized in three non-overlapping periods: 1990-1999, 2000-2009, and 2010-2020 (we reserve the period 1980-1989 for instrumenting). In the first part, we introduce the statistical criterion to classify these economies. In the second part of the section, we apply this methodology to the group of countries in our sample.

Measuring fiscal stance

The independent variable of interest indicates whether the economy is pro, counter, or acyclical. These dummy variables, which take the value of 1 in each case, will define the three states of the fiscal stance. In a companion paper, Fuentes and Soto (2022) present the methodology for constructing these indicators.

Let's define *r* as the sample correlation coefficient between the cyclical component of government expenditures and real GDP. A country pursues a countercyclical (procyclical) fiscal policy if the coefficient is negative (positive) and statistically different from zero. If the null hypothesis of the correlation coefficient equal to zero cannot be rejected, we say that the fiscal policy is acyclical.

Based on Fisher's z-transformation, $z = \frac{1}{2} \ln \left(\frac{1+\hat{\rho}}{1-\hat{\rho}} \right)$, we can test hypotheses about the value of the population correlation coefficient between two variables. When applied to the sample correlation coefficient, the sampling distribution of the transformed variable is approximately normal, with a variance that is stable over different values of the true underlying correlation. The mean and standard error are 0 and $\frac{1}{2} \ln \left(\frac{1+\hat{\rho}}{1-\hat{\rho}} \right)$, respectively, where N is the sample size.

In order to test, we posit the null hypothesis of acyclicality ($\rho = 0$) against two alternative hypotheses: positive correlation ($\rho > 0$) and negative correlation ($\rho < 0$). We combine the two one-tail tests with the size of 2.5% and build the confidence interval for

the null hypothesis as $\left[-\frac{2.24}{\sqrt{N-3}}, \frac{2.24}{\sqrt{N-3}}\right]$. For a sample of 125 observations, the confidence limits at 95% are thus ± 0.2. Therefore, we classify a country as procyclical if the observed correlation is above 0.2, countercyclical if it is below -0.2, and acyclical otherwise. Appendix 1 shows the countries' classification.

What is the evidence?

Figure 2 exhibits the results of the fiscal taxonomy applied to the 148 economies (a detailed analysis of these data is in Fuentes and Soto, 2022). The first relevant feature is the considerable reduction in the number of economies classified as procyclical in the second period compared to the first, with an increase in the number of counter and acyclical economies as a counterpart. But the panorama becomes very different when adding the decade 2010-2019. The group of procyclical economies became more prominent than the same class from 1990-1999. An economy that moved from procyclical to countercyclical is what FVV called a Recent Graduate, comparing data from the first decade of this century and the previous one. Fuentes and Soto (2022) added the decade 2010-2019, finding that some recent graduates returned to have a procyclical fiscal stance in this period.[5]

A plausible explanation for this finding is that the low-interest rate worldwide was the relevant characteristic of the 2010-2019 period. Thus, debt cost was low, and the punishment for not caring about fiscal sustainability was minor. This combination of events could induce the government to be more procyclical.

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[5] Fuentes and Soto (2022) name a swallow an economy that was procyclical in the first decade and turn to be counter or acyclical in the second, and return to be procyclical in the third. That is the case when a swallow does not make a summer.

Figure 2. Classification of economies according to their fiscal stance
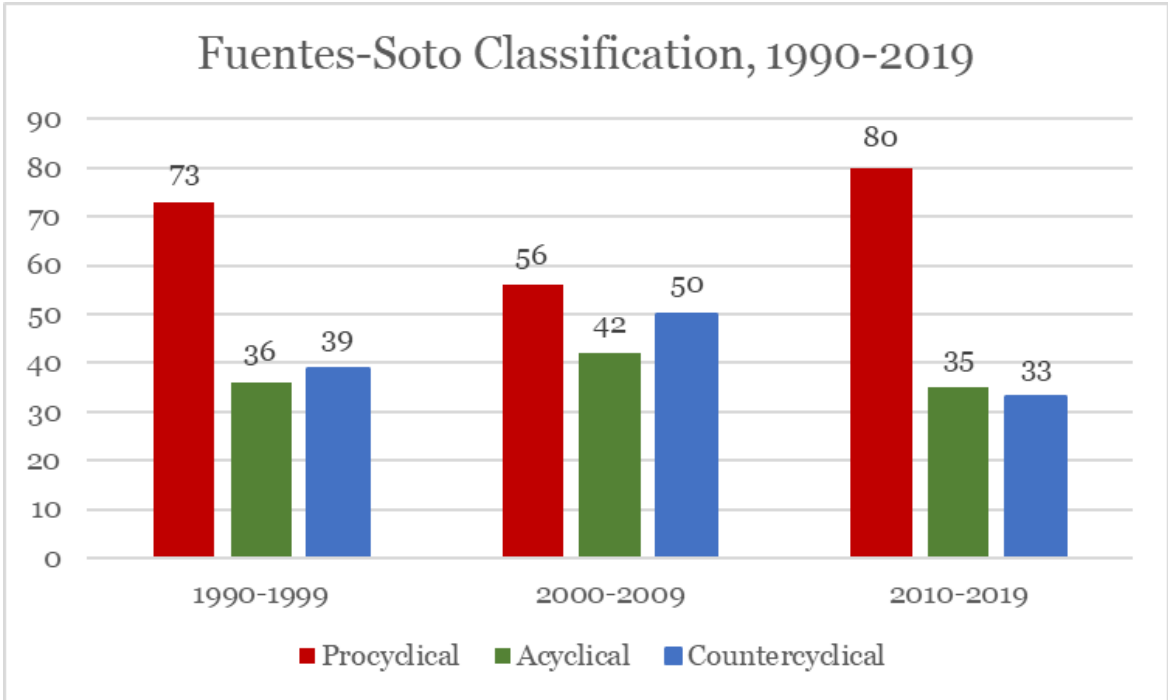
Source: Author's estimations.

Another remarkable result is the classification of fiscal stances for different regions of the world. Table 1 exhibits this information using a correlation of the cyclical component for the entire period we have data. Developed economies are mainly counter and acyclical—Germany, Greece, and Iceland are three procyclical cases. The results for Germany are heavily affected by the reunification that took place starting in 1990. The case of procyclicality abounds across all the other regions. There is no countercyclical economy in Emerging Europe & Central Asia or South Asia, and only one countercyclical economy in Latin America: Mexico. Nevertheless, it is noteworthy the number of acyclical economies across different regions.

Table 1. Taxonomy of Countries according to their Fiscal Policy Stance

	Countercyclical	Acyclical	Procyclical
Developed Economies	Austria, Belgium, Canada, Denmark, Finland, France, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom, United States	Australia, Portugal	Germany, Greece, Iceland
East Asia & Pacific	Hong Kong, Singapore, Thailand	Brunei Darussalam, China, Fiji Indonesia, Korea, Malaysia, Samoa	Kiribati, Mongolia, Papua New Guinea, Philippines, Solomon Islands, Vanuatu
Emerging Europe & Central Asia		Cyprus, Latvia, Poland, Turkey, Uzbekistan	Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Hungary, Romania
Latin America & Caribbean	Mexico	Bahamas, Barbados, Chile, Costa Rica, Dominica El Salvador, Jamaica, Nicaragua	Antigua and Barbuda, Argentina, Belize, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, Grenada, Guatemala, Haiti, Honduras, Panama, Paraguay, Peru, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela
Middle East & North Africa	Bahrain, Kuwait, United Arab Emirates	Algeria, Egypt, Tunisia	Djibouti, Iran, Israel, Jordan, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Yemen
South Asia		India, Maldives, Sri Lanka	Bangladesh, Bhutan, Pakistan
Sub-Saharan Africa	Equatorial Guinea, Guinea, Uganda	Benin, Botswana, Chad, Comoros, Cote d'Ivoire, Gambia, Kenya, Lesotho, Malawi, Mauritius, Sao Tome and Principe, Togo, Zambia	Angola, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Congo, Eswatini, Ethiopia, Gabon, Ghana, Guinea-Bissau, Madagascar, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Zimbabwe

Sources: Fuentes and Soto (2022)

4. Does countercyclical policy pay?

In this section, we explore the effects of different types of fiscal policies on selected macroeconomic variables, grouped as those dealing with the instability of economic activity (including the variance of the business cycle and price instability) and those related to the long-run performance of an economy (comprising of annual economic growth, per capita GDP growth, fiscal balance, and government debt). We also include the standard deviation of terms of trade shocks (TOT) cycle as an exogenous source of instability that might condition the performance of these economies and the real exchange rate (RER) as a variable affected by the type of policy. Table 2 shows unconditional evidence of these variables' median values for each fiscal stance class. We focus on the median economy to avoid contaminating our results with outlier observations (e.g., countries with hyperinflationary processes or afflicted by civil wars).

Noticeably, even though acyclical economies experience high volatility in TOT shocks, they exhibit the lowest standard deviation of the business cycle, measured as the cross-country median of the standard deviation of the difference between actual and long-run real GDP. The same is true for the standard deviation of the RER. As expected, procyclical economies show the most significant volatility in output. These results align with our conceptual framework that being acyclical may be a superior strategy when facing small shocks since policy fine-tuning is costly.

Moreover, the median acyclical economy had the highest growth rate of the level of GDP, which is not due to higher population growth since they also exhibit the highest growth rate of per capita GDP. The inflation rate is almost as low as the countercyclical economies and lower than the procyclical ones.

In terms of fiscal variables, among the three groups of economies, the acyclical countries present the lowest fiscal budget imbalance and the lowest level of government debt to GDP ratio, which is coherent with the idea that a-cyclicality provides more stability. So far, neglecting the possibility of acyclical policy, the literature is missing a relevant policy recommendation for fiscal authorities.

Table 2. Unconditional Evidence 1980-2019 for the median country, selected variables

	Procyclical	Acyclical	Countercyclical
Std. Deviation of Business Cycles (%)	8.2	3.5	6.9
Std. Deviation of TOT Cycles (%)	16.9	19.5	13.4
Std. Deviation of RER Cycles (%)	9.1	5.4	22.1
Economic Growth (% annual)	3.9	4.3	3.3
Per capita GDP growth (% annual)	2.1	2.3	2.1
Price Instability (% annual)	5.6	3.4	3.0
Fiscal Balance (% GDP)	-2.3	-2.0	-2.4
Government Debt (% GDP)	43.9	34.1	46.2

Source: own elaboration.

Next, we proceed to a conditional analysis of the effects of procyclicality on four dependent variables: economic growth volatility (variance of the output deviations with respect to the trend), normalized inflation, and long-term economic growth (measured as per capita GDP and debt to GDP ratio. Models for each variable are estimated using the cross-section of the 148 countries averaged from 1990-2019. Some models used different samples because there is no information for all the control variables for all economies.

Table 3 shows the regression of each of the dependent variables on the three dummy variables that define the fiscal stance, controlling for TOT instability and government expenditure instability; for debt TOT instability, government expenditure instability, broad money over GDP (%), and RER instability and dependency ratio (inactive population over total population).

The results on growth instability are coherent with the unconditional evidence (Table 2). Economies that pursue an acyclical policy exhibit a lower variance of the output deviation from the trend compared to the other two classes of policies, which do not present a significant coefficient. In this case, the inclusion of fiscal spending instability as a control variable reduces the statistical significance of the dummies for pro and contracyclical budgetary policy.

Regarding normalized inflation, the countercyclical economies present the lowest inflation rate, with a conditional mean of 2.6%. As expected, procyclical economies tend to have sizeable normalized inflation on average, while the acyclical ones lie somewhere in the middle.

What is interesting is that acyclical economies ranked with the highest long-run economic growth among the three groups, although the differences are not significant. These results also corroborate what we saw in table 2. There is not much difference in the public debt to GDP ratio, which is not surprising since public debt is a stock variable, and we are looking at government expenditures, which is a flow.

Table 3. Regression results

	Growth instability	Inflation (normalized)	Growth GDP per capita	Debt to GDP ratio
Acyclical economy	-0.002	0.052	5.451	0.298
	(0.041)	(0.000)	(0.000)	(0.000)
Procyclical economy	0.000	0.064	5.221	0.288
	(0.843)	(0.000)	(0.000)	(0.000)
Countercyclical economy	0.002	0.026	4.920	0.289
	(0.407)	(0.002)	(0.000)	(0.000)
Observations	148	130	145	133
R-squared	0.443	0.685	0.670	0.848

The control variables for growth instability are government expenditure instability, normalized inflation; for inflation are TOT instability, government expenditure instability and broad money over GDP (%); for growth of GDP per capita are initial GDP (1990), TOT instability and government expenditure instability; for debt TOT instability, RER instability, government expenditure instability and dependency ratio in the population (inactive population over total population).

5. Concluding remarks

Stabilization is one of the primary goals of macroeconomic policy. However, revealed policymakers' preferences signaled that acyclical fiscal policy is the primary goal of several states (for example, when imposing fiscal rule). In our conceptual framework, a costly active policy makes an acyclical policy more suitable when the economy faces small shocks than a countercyclical policy. Given that external shocks (e.g., terms of trade shocks) are milder for industrial countries, it is not rare to find acyclical or countercyclical fiscal policies in that group of economies.

The empirical literature had worked with just two alternatives. A fiscal policy could be procyclical or countercyclical, neglecting the possibility of acyclical fiscal policy. This paper provided a new taxonomy based on statistical methods to define the budgetary stance: pro, counter, and acyclical. This ordering is an improvement from the binary classification in the literature. Unconditionally, economies that follow an acyclical fiscal policy exhibit low output volatility around the trend despite facing more significant terms of trade shock compared to the other group of economies. Moreover, they present a higher GDP growth rate (level and per capita terms), low fiscal deficits, and debt to GDP ratio.

In the conditional analysis of the relationship between the four macro variables and the cyclicality of fiscal spending, the qualitative results do not change. Acyclical economies display the lowest variance of the output cycle and the highest economic growth. In contrast, the economies with a countercyclical fiscal policy are more successful in reducing the inflation rate. Finally, the three groups have similar debt-to-GDP ratios. Part of the picture is missing when one disregards the possibility of acyclical fiscal spending.

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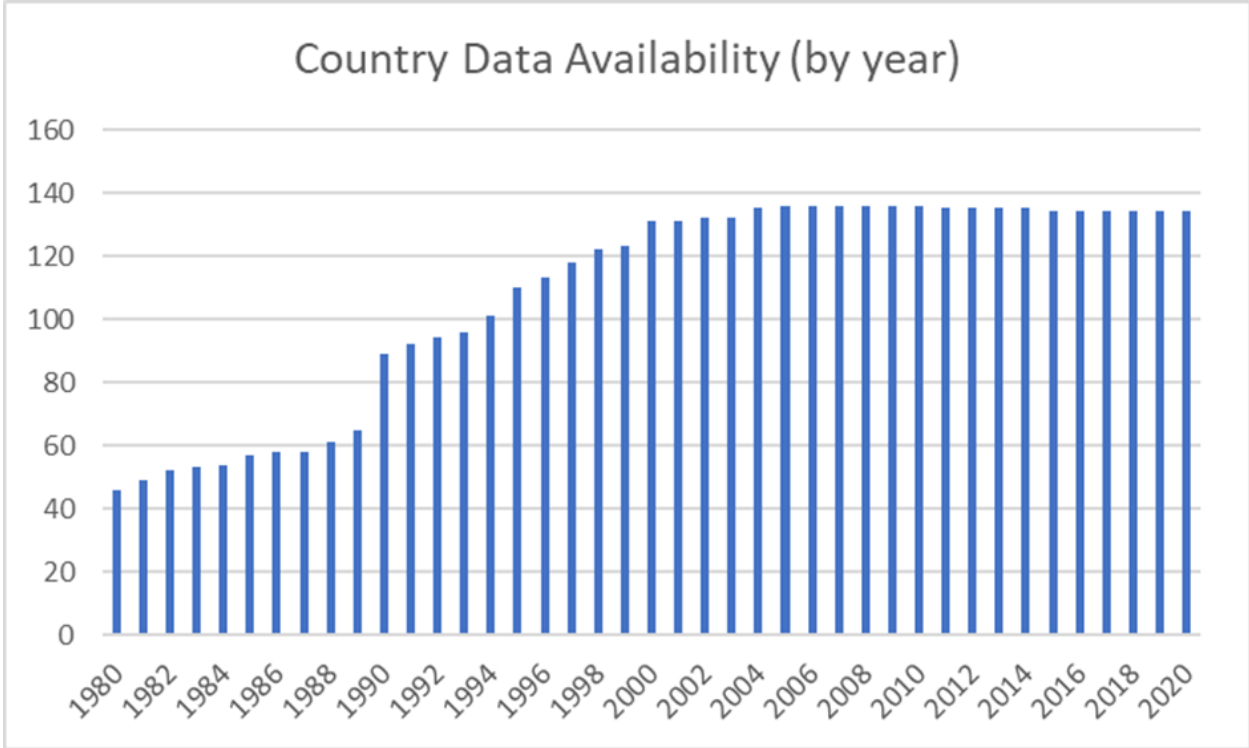
Appendix Tables

Table A1

Country Data Availability (by year)

Table A2. Our classification

	Period 1: pre-2000	Period 2: 2000-2009	Period 3: 2010-2019
Established Graduate	Acyclical or Countercyclical	Acyclical or Countercyclical	Acyclical or Countercyclical
Recent Graduates I	Procyclical	Procyclical	Acyclical or Countercyclical
Recent Graduates II	Procyclical	Acyclical or Countercyclical	Acyclical or Countercyclical
Repentant	Acyclical or Countercyclical	Procyclical	Acyclical or Countercyclical
Swallows	Procyclical	Acyclical or Countercyclical	Procyclical
Back to School I	Acyclical or Countercyclical	Procyclical	Procyclical
Back to School II	Acyclical or Countercyclical	Acyclical or Countercyclical	Procyclical
Still in School	Procyclical	Procyclical	Procyclical