Public Deficits in USMCA Economies During the COVID-19 Economic Crisis

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Abstract

This paper aims to evaluate the fiscal policy implemented by the USMCA economies to deal with the COVID-19 economic crisis. We estimate the economic capacity (potential output) and the Cyclical Primary Balance as a percentage of GDP (*CPB*) of each of the scrutinized economies. Then we obtain the Cyclical Adjusted Primary Balance as a percentage of GDP (*CAPB*) as the difference between the Primary Balance (*PB*) and the *CPB*. Unlike previous *CPB* estimations, we obtain the potential output reference as the Economic Capacity methodology (Shaikh and Moudud, 2004), which overcome some alternative methodologies problems. According to our empirical analysis, an asymmetric fiscal policy stands across USMCA economies. Canada and the United States are using a countercyclical fiscal policy, while Mexico uses a procyclical one. Mexico should abandon its current fiscal policy, implement an alternative to support households and firms during crisis periods, and execute a progressive fiscal reform. Our paper's limitation is that we use *PB* and not its components to estimate the CPB; however, we use a more extended time series, contributing to obtaining more robust results.
JEL Classification: H11, H61, H62, H63, O51, O54.
Keywords: Primary balance, Fiscal Policy, USMCA economies, COVID-19.

Déficits públicos de los países del T-MEC durante la crisis económica por COVID-19

Resumen

Nuestro objetivo es evaluar la política fiscal implementada por las economías del T-MEC para enfrentar la crisis del COVID-19. Estimamos la capacidad económica (producto potencial) y el Balance Primario Cíclico como porcentaje del PIB (*CPB*) de estas economías. Obtenemos el Balance Primario Ajustado por el Ciclo como porcentaje del PIB (*CAPB*) como la diferencia entre el Balance Primario (*PB*) y el *CPB*. A diferencia de estimaciones previas del *CPB*, el producto potencial se obtiene mediante la metodología de la Capacidad Económica (Shaikh y Moudud, 2004), que resuelve problemas asociados con metodologías alternativas. Nuestro análisis empírico muestra que existe una asimetría: en Canadá y Estados Unidos la política fiscal es anticíclica y en México es procíclica. México debería abandonar su política fiscal actual; implementar una alternativa de apoyo a los hogares y empresas durante los períodos de crisis y ejecutar una reforma fiscal progresiva. Una limitación de nuestro artículo es que usamos *PB* y no sus componentes para estimar el *CPB*; sin embargo, utilizamos series de tiempo más largas, lo que contribuye a obtener resultados más robustos.
Clasificación JEL: H11, H61, H62, H63, O51, O54.
Palabras clave: Balance Primario, Política Fiscal, Países del T-MEC, COVID-19.

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1. Introduction

The World Bank (2020) estimates a 5.2 percent contraction in global GDP in 2020. The speed of economic recovery will depend on the ability and efficacy of controlling the virus contagion rate and on the economic policies designed to cope with losses associated with the COVID-19 economic crisis (IMF, 2020a).

According to the New Consensus in Macroeconomics and rational expectations approaches (Barro, 1974; Blanchard, 1990; Giavazzi and Pagano, 1990), an output level consistent with full-employment prevails if economic policies aim to achieve a low and stable inflation rate and a balanced government budget. As stated by these theories, budget deficits and public debt do not add to net wealth; instead, these policies tend to bring about inflation, balance of payments crises, financial fragility, and exchange rate instability, rather than enhancing output, employment, and social welfare. Therefore, governments must refrain from violating the principle of sound finance, which is considered the best contribution of fiscal policy for price stability and optimum output growth. Moreover, and as a result of the necessary goals to get full-employment, the short-run interest rate remains as the only economic policy tool to intervene in the economy.

However, the current crisis is an unprecedented global economic disruption, with adverse shocks from both supply and demand sides, that requires an alternative economic policy approach, especially from the fiscal policy side. In other words, governments must engage in countercyclical fiscal policies alien to the balanced budget standpoint predicated by the sound finance doctrine. Many authors in recent empirical papers have derived that requirement (see, for example, Gopinath, 2020; IMF, 2020b and Hannan, Honjo and Raissi, 2020). Moreover, other theoretical approaches, the post-Keynesian and Kaleckian, support loosening fiscal policy during recession periods[2].

In general, and except for the United States from 2002 to 2019[3], before the COVID-19 economic crisis, the governments of the USMCA economies (Canada, Mexico, and the United States) practiced a fiscal policy approach based on the premises of the New Consensus in Macroeconomics and the rational expectations approaches. However, it is worth noting that such fiscal policy position, designed for normal times, has been readily abandoned by some USMCA economies during recession periods; for example, Canada and the United States have used countercyclical fiscal policies in 2018 and 2019.

This paper aims to evaluate the fiscal policy implemented by the USMCA economies to deal with the COVID-19 economic crisis. In the face of the mounting impact on economic activity, governments of the USMCA economies should use emergency fiscal measures to cope with the crisis's

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[2] Interestingly, although J. M. Keynes has been identified with the use of a countercyclical fiscal policy, as it was indicated by Pérez (2003), The General Theory of Employment, Interest and Money [(1936), (1964)] was written assuming capital scarcity; so, the focus of fiscal policy was on the regulation of investment. J. M. Keynes considered the use of countercyclical fiscal policy in later writings assuming the existence of capital saturation, a characteristic hard to find under the current global economic situation.

[3] According to our empirical analysis, the cyclical primary balances as a percentage of GDP consistent with a normal utilization of economic capacity were equal to 1.36% from 1960 to 2019 for the case of Canada; to 0.57% for the subperiods 1960 - 1977 and 1993 – 2019, and to 4.83% from 1978 to 1992 for the case of Mexico; while for the case of the United States, it was equal to 0.05% from 1972 to 2001 and equal to -2.18% from 2002 to 2019.

harmful effects. While biomedical reports and empirical analyses about contagion, diseases, and other related issues abound, economic studies of the sanitary crisis in these countries are limited, so we try to close this gap. We postulate the necessity of a loosening fiscal policy for the case of Mexico, similar to that applied by its main trade partners.

This paper is divided into four sections considering this introduction. In the second one, we present a review of the theoretical debate about implementing budget deficits during crisis periods to induce an economic recovery. We also describe the fiscal policy measures taken by the USMCA economies to handle the COVID-19 economic crisis. In the third one, we estimate the long-run relation between the Government Primary Balance as a percentage of GDP (*PB*) and the *gap* (the ratio output to economic capacity) to obtain the Cyclical Primary Balance as a percentage of GDP (*CPB*: the part of the primary balance that automatically reacts to the cycle). Then we get the Cyclical Adjusted Primary Balance as a percentage of GDP (*CAPB*: the response of fiscal variables to discretionary policy changes) as the difference between *PB* and *CPB*. Next, we identify four fiscal policy combinations between the *CPB* and the *CAPB*, expansive-expansive, contractive-expansive, expansive-contractive, and contractive-contractive, to derive some macroeconomic implications of their use in terms of public debt accumulation, output, and economic capacity growth rates. In the last section, we come to our final remarks.

2. Literature Review.

2.1 Theoretical review.

Post-Keynesians and Kaleckians, on the one hand, and authors from the New Consensus in Macroeconomics and the rational expectations approaches, on the other hand, revived the debate over the effects of loosening or tightening fiscal policy during the last decade.

According to the New Consensus in Macroeconomics and the rational expectations approaches, an increase in the budget deficit would imply a future tax burden increase, leading economic agents to reduce their current consumption and to increase their current savings in anticipation of future tax hikes (REH: The Ricardian Equivalence Hypothesis) (see, for example, Barro, 1974 and Blanchard, 1990). Moreover, in the face of increasing taxes, labor supply can be expected to decline, inducing expectations of a production drop. Furthermore, the increase in public employment reduces the labor supply available for the private sector and generates upward pressure on wages and downward pressure on the expected value of profits (Arestis, 2012). This drop-in profit expectations minimizes investment incentives and induces a decline in production.

Given the adverse effects on consumption, labor supply, and profit expectations, the New Consensus in Macroeconomics postulates three critical conclusions (Arestis and Sawyer, 2010). First, monetary policy is the primary economic policy; in contrast, fiscal policy has a supporting role through automatic stabilizers, which lead the government to get an increased level of debt during economic crises and, on the contrary, to reduce its debt during economic expansions (Leeper, 1991). Second, fiscal policy is powerless to stimulate economic activity because an adjustment of the private demand would offset its positive effect on the aggregate demand. Third, fiscal policy encourages waste and budget deficits that would lead to unsustainable public debt, and a high debt ratio poses

restrictions on monetary and fiscal policy (Lubik and Waddell, 2020). For instance, rising debt levels tend to reduce economic policies' effectiveness and mounting pressures on the Central Banks' capacity to keep low the interest rates.

Fiscal policy in many economies has been designed based on the three pillars described in the last paragraph. For example, according to the Stability and Growth Pact of Economic and Monetary Union, participating economies in the European Union have to have a balanced budgetary position, or a small surplus during the economic cycle of around 3% of GDP; moreover, the public debt to GDP ratio should be equal to or less than 60%. Another example is the "golden rule" adopted by the United Kingdom, which implies budgetary balance and a public debt limited to 40% of GDP. These rules of behavior are in line with the debt threshold set by Reinhart and Rogoff (2009, 2010), who argue that a public debt ratio above 90% of GDP leads to lower output growth rates.

However, despite how consistent these orthodox arguments seem to be, there have been objections against their economic policy recommendations, assumptions, causalities, results, and empirical evidence. For example, one of the most disputed premises is that all economic agents have access to efficient financial markets; considering liquidity constraints, consumers' intertemporal maximizing utility procedure, and the REH predictions do not arise. Given the financial constraints, the optimization of consumption-saving plans is carried out only in the very short term and not in the time horizons of the REH. As a result, there is no public deficit compensation through variations in private spending levels, and there is a stimulus to the aggregate demand through traditional Keynesian multipliers. On the other hand, it is very weak to assume that economic agents' decisions depend on their expectations about the future, without any relevance for the degree of uncertainty. In fact, during a recessive context, the recent past —a low level of economic activity or high unemployment rates— and the immediate present —cuts in public spending or tax increases, made in the pursuit of budgetary balance— are more likely to influence economic decisions than future expectations (Arestis, 2012). For example, during recession periods, public expenditure cuts would not stimulate private consumption and investment, which anticipate lower taxes in the future, as argued by the REH. Instead, budget cuts would induce an output drop, and both consumption and investment would decrease due to both the diminution of private income and the unwanted accumulation of inventories[4].

On the contrary, a fiscal deficit would not induce an increase in private savings; instead, it would stimulate economic activity and the output growth rate. Moreover, concerning the adverse effect of the public-debt-to-GDP ratio on the growth rate, Arestis (2012) argues that during crises periods, government revenues decrease while public expenditure, addressed to heed problems, such as unemployment, increases, which induce an expansion of the public debt to GDP ratio. So, the causality does not run from the public debt ratio to output growth rate, but the other way around.

Furthermore, to highlight the expansive nature of the public deficit, especially in economies away from full-employment, Kalecki (1943, 1956) demonstrated that public expenditures, financed through public debt, increase effective demand for goods and services until the full-employment output level is reached. In this sense, if we divide national income into profit and wages and assume

4 See Tobin and Buiter (1980) and Tobin (1982) for a thorough criticism about the REH.

that employees do not save, it can be shown that private-sector profits are equivalent to the sum of private investment, non-wage consumption, net exports, and fiscal deficit. When there is a public deficit, entrepreneurs receive more resources from government spending than what they pay in taxes, so private profits are above what is determined by private investment and consumption. This reasoning concludes that an increase in the public deficit will positively affect effective demand, private profits, and employment (López, 1998).

Similarly, López and Carvalho (2008) argue that the public deficit is the only economic policy instrument to induce a recovery when an economy is in a recession. The idea is to persuade private agents to trust the government compromise to intervene during recessive scenarios. Bhaduri (2000) postulated that the most appropriate strategy for achieving aggregate demand management is the administration of public spending itself, which, in a recession, involves managing the public deficit as an economic policy instrument. In an environment of slow growth or a recession, the other aggregate demand components are autonomous just to a very low degree. They do not exhibit induced mechanisms to drive economic recovery and generate expectations of accelerating effective demand. For example, in a recession context, unwanted accumulation of inventories minimizes profit expectations and reduces investment incentives. On the other hand, exports depend mainly on external income and other variables outside the scope of domestic economic policy instruments.

Finally, we can list several factors that increase the degree of effectiveness of loosening fiscal policy, among them: coordination between fiscal, monetary, and financial regulation policies (see Arestis and Sawyer, 2010 and Eggertsson 2006); the degree of economic activity — especially during recessive periods— (see Auerbach et al., 2010; Auerbach, 2012 and Auerbach and Gorodnichenko, 2012), and the complementarity between public and private investment (see Sousa and Portugal, 2016 and Pereira and Andraz, 2005).

2.2 A brief review of fiscal measures.

The COVID-19 economic crisis has induced some governments to resort to high indebtedness levels, a policy that, from the New Consensus in Macroeconomics and the rational expectations approaches, poses the problem of future higher taxation and lower-income prospects. If economic agents' expectations about higher debt levels and reduced income materialize, the government would have problems meeting its debt service payments, leading it to exhibit insolvency difficulties.

The higher current government debt trend has been supported by low interest rates, especially in developed countries. However, interest rates have reached the zero lower bound. So, in the foreseeable future, higher interest rates risk default episodes of those governments that have borrowed heavily to cope with the COVID-19 economic crisis (Arellano, Bai and Mihalache, 2020). However, it is worth noting that, as has been indicated by Chudik et al. (2017), considering global interdependence and common shocks, there is not a determined threshold effect in the relationship between the public-debt-to-GDP ratio and the growth rate.

Concerning the USMCA countries, Canada and the United States have faced the COVID-19 economic crisis loosening fiscal policy. In contrast, Mexico has handled this economic disruption tightening fiscal policy[5].

Canada's government introduced an initial nationwide package aid of 260 billion Canadian dollars, equivalent to 11% of GDP; 40% of the package went directly to households' and firms' spending (Desson et al., 2020). The Canadian government also implemented a temporary program to subsidize employers across the market spectrum, including non-profit organizations, to compensate for forgone labor incomes (Doobay, 2020; Macklem, 2020). Payments of mortgages, personal and student loans were temporarily suspended or postponed by the government. Also, the government created a financial fund to support indigenous communities, homeless persons, and women shelters. On the revenue side, the government introduced tax breaks in support of the private sector.

The IMF (2020) has warned that albeit the fiscal support is out of the question, financial risks have risen as a consequence. Therefore, it is essential to adopt measures to ensure that the government will preserve the fiscal framework's credibility in the long-run. Canadian public-net debt to GDP ratio increased to more than 50%; a historical record reached through the emission of treasury bonds and short-run obligations. In contrast, the government's ability to serve its debt has decreased. However, it is also commonly accepted that the Canadian government has been able to cushion the pandemic's worst effects so far.

In turn, the United States government introduced fiscal measures under the Coronavirus Aid, Relief, and Economic Security (CARES) Act. This law focuses on three economic sectors, households, private firms, and state and municipal governments (Fed, 2020). Households were covered, providing them health and food assistance, cash transfers, employment benefits, pension payments with fiscal breaks, and tax deferments. The government gave away loans, guarantees, subsidies, payroll tax breaks, and tax breaks at large to private firms. State and municipal governments received support through education funds and other aid facilities. The combined results of those discretional fiscal stimuli and the automatic stabilizers might increase the budget deficit to GDP ratio at a rate of 79% for the year 2020, resulting in the highest level since 1947 (Fed, 2020). According to the Fed, the public debt to GDP ratio will reach 120%, which would imply roughly a 30% increase in just over a decade. Hence, the Fed considers that the public debt incurred to tame the economic cycle is not the most convenient measure. However, as indicated, considering global interdependence and common shocks, there is no determined threshold effect in the relationship between the public debt to GDP ratio and the output growth rate.

In the case of the Mexican government, the fiscal policy applied to face the COVID-19 economic crisis has been very modest (IMF, 2020b; Hannan, Honjo and Raissi, 2020). Inside the very limited effort exhibited by the Mexican authority[6], it designed and displayed fiscal measures in three respects: actions to check the health contingency, aid programs for households and firms, and packages to support state and municipal governments. The primary fiscal measures include a larger

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5 According to the Fiscal Monitor database of the International Monetary Fund, Government Primary Balances as a percentage of GDP during 2020 were equal to -19.83% and -16.69% for the cases of Canada and the United States respectively, and it was equal to -1.96% for the Mexican economy.
6 According to Hannan, Honjo and Raissi (2020), to handle the COVID-19 economic crisis Mexico's additional expenditure in healthcare was equal to 0.2% of GDP and 0.5% of GDP to secure households and firms.

budget for the health sector, the army, and the navy in 2020; government credit facilities for small firms; ahead–of–time federal transfers; more extensive welfare and employment programs; construction of social infrastructure; deferment of tax and other fiscal obligation payments; tax rate reductions; subsidies applied to wage payments; loans and credit guarantees financed by public funds (Banco de México, 2020; CIEP, 2020). Furthermore, short-term impact investment projects were temporarily suspended and reoriented toward long-term projects.

According to the Mexican Treasury, tax revenues are declining, and public debt is gradually augmenting as a percentage of GDP, which is against the grain of the government's position of maintaining a low public debt ratio. However, Hernández (2020) argues that had the Mexican government adopted the economic plan recommended by several institutions to increase public debt by 3% of GDP, it would have had to increase the average budget surplus by 0.74%, which represents an additional 0.03% of the *PB*. It means that Mexico has enough fiscal space to counteract the pandemic's negative impact on economic activity. Therefore, the country's fiscal measures do not risk exhausting the fiscal space available to cope with the social effects associated with the COVID-19 economic crisis, all the more so if the presence of weak social security nets and a sizable informal sector are taken into account.

So, Mexico's fiscal policy reaction against the COVID-19 economic crisis has been insufficient compared to its main trade partners. The reason is that the Mexican government rejects the idea of contracting new debt to finance public expenditure. Mexico's fiscal policy does not make sense given the fiscal space available. It involves the risk of an acute recession and a slow recovery of an economy that has shown productive stagnation over several decades. Canada and the United States seem to follow a similar fiscal policy against the COVID-19 economic crisis. In contrast, the Mexican policymakers designed a fiscal policy reaction aimed at maintaining an equilibrated primary balance.

In the next section, we evaluate the fiscal policy reaction against the COVID-19 economic crisis of the USMCA economies. Given data availability, we support our analysis by identifying the *CPB* and the *CAPB* of the three scrutinized economies. For Canada and Mexico, the period under analysis is 1960-2019, while for the United States, it covers 1972- 2019. We then identify macroeconomic implications for debt accumulation, GDP, and economic capacity growth rates given four combinations of the *CPB* and the *CAPB*, expansive-expansive, contractive-expansive, expansive-contractive, and contractive-contractive.

3. Methodology, results, and discussion.

Canada, Mexico, and the United States signed an international trade agreement that entered into force in 1994 (NAFTA); it was modified and replaced by the USMCA in 2020.

Since the beginning of NAFTA in 1994, Canada, Mexico, and the United States have exhibited a positive high annual growth rate correlation, especially since 2000 (see graph 1). From 1961 to 1993, the annual growth rate correlation between Canada and Mexico was equal to 0.36, the correlation between Canada and the United States was 0.52, and that between Mexico and the United States was equal to 0.12. On the other hand, from 2000 to 2019, those correlations were equal to 0.62, 0.71, and 0.80, respectively. One of the advantages of analyzing these economies is that we can compare their fiscal policy reaction to common crisis episodes, especially in recent periods.
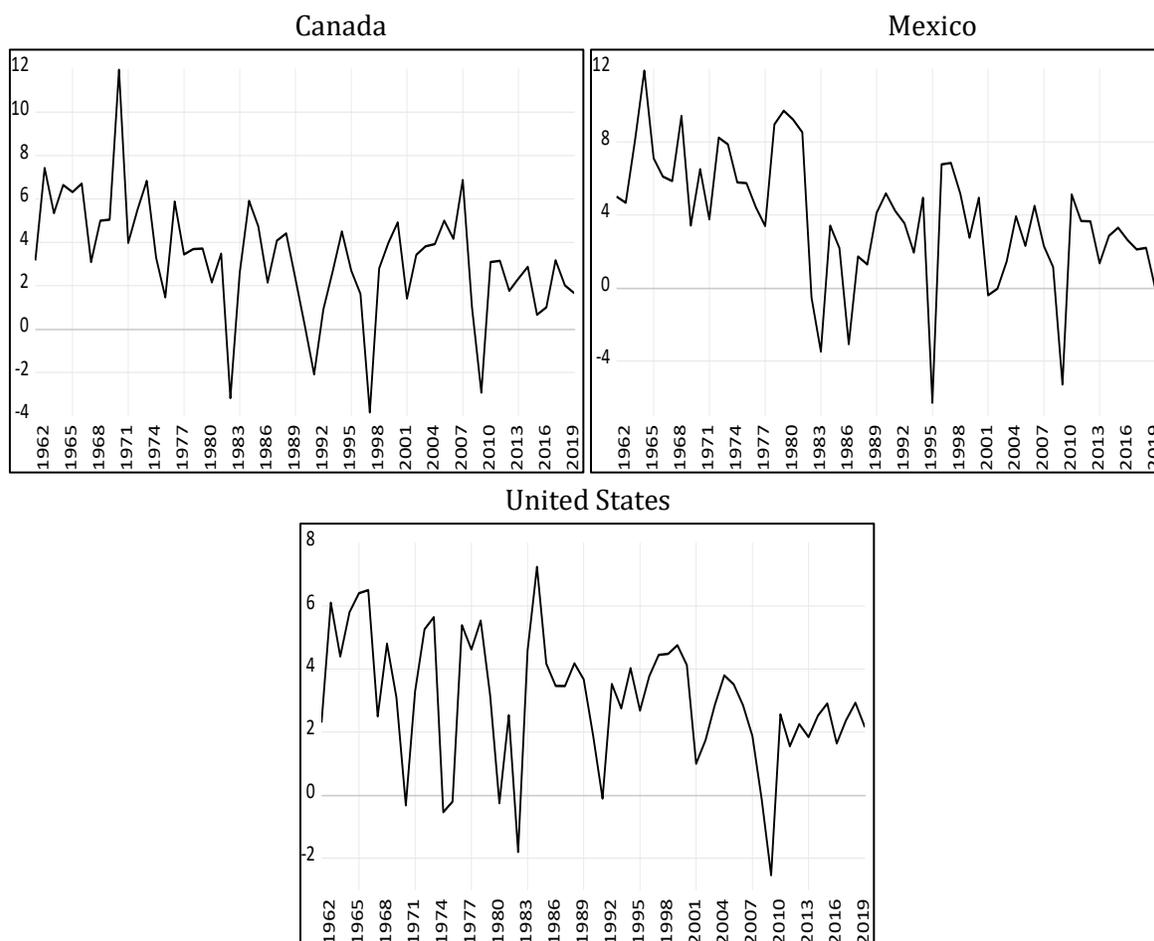
Graph 1. Annual growth rate (%), 1961 - 2019.
Source: Authors' elaboration using data from the World Development Indicators database of the World Bank.

As indicated, policymakers could use fiscal policy to stabilize the growth rate (g); during expansionary episodes, a budget surplus contributes to slow down aggregate demand adjusting it to economic capacity (EC)[7]. On the contrary, during recessive periods, a budget deficit complements aggregate demand adjusting it to EC. So, if policymakers use fiscal policy as a business cycle stabilizer, the annual PB average should be near to zero over the years. As shown in graph 2, except for the Mexican case from 1983 to 1992, and the United States from 2008 to 2019, the three scrutinized economies' PB annual average was near to zero. In fact, from 1960 to 1993, the annual PB averages were equal to 1.34% for Canada, 2.17% for Mexico, and -0.72% for the United States, while from 2000

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7 EC is understood as the desired level of output from a given plant and equipment. Following Shaikh and Moudud (2004), we use EC as the potential output, which has to be differentiated with respect to full-employment output (Garegnani, 1979; Shaikh, 1987).

to 2019, these averages were equal to 0.58%, 0.42%, and -3.02% respectively, showing that the three economies relaxed their fiscal policy[8].

Canada

Mexico

United States
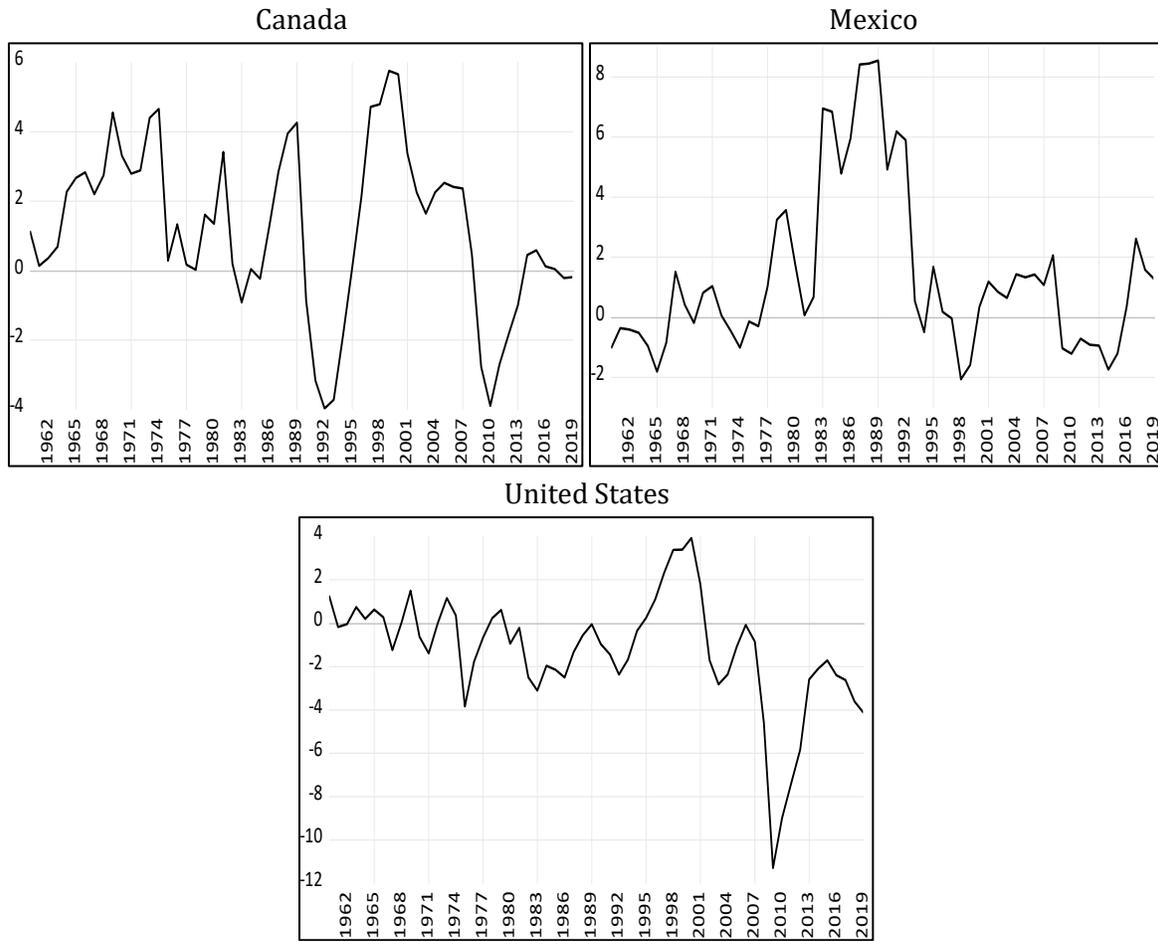
Graph 2. Government Primary Balance as a percentage of the GDP, 1960 – 2019.
Source: Authors' elaboration using data from the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

Although the three scrutinized economies exhibited an annual PB average near to zero from 1960 to 2019, it is worth noting that from 1961 to 1993, the Mexican economy exhibited the highest volatilities of g and PB, while the United States economy exhibited the lowest volatilities. On the other hand, from 2000 to 2019, when the economies have suffered common adverse shocks, Mexico exhibited the lowest volatility of PB and the highest volatility of g, while the United States exhibited the highest volatility of PB and the lowest volatility of the g (see table 1).

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8 It is worth noting that the relaxation of the fiscal policy in the cases of Canada and the United States has to do with how they have handled their economic crises, while in the case of Mexico, it has to do with the structural adjustment undertaken after the foreign debt crisis of 1982.

Table 1. Volatilities of the Government Primary Balance and growth rate.

	Canada		Mexico		United States	
	PB	*g*	*PB*	*g*	*PB*	*g*
1960 – 1993	2.27	2.81	3.24	3.52	1.28	2.31
2000 – 2019	2.33	2.04	1.27	2.35	3.47	1.46

Note: Volatilities are measured as the standard deviations of the period.
Source: Authors' elaboration using data from the World Development Indicators database of the World Bank and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

To assess the countries' reaction to the economic crisis it is necessary to consider that fiscal policy is not entirely discretional. Fiscal policy is partially discretional and partially endogenous to economic activity. So, how can we explain the behaviors of the USMCA economies' *PB*? In part, the *PB* follows an endogenous behavior resulting from the automatic stabilizers. Then, to explain the behavior of the USMCA economies' *BP*, we estimate the *CPB* and the *CAPB* for each of the scrutinized economies.

Our methodology consists of a series of steps:
a) Following Shaikh and Moudud (2004), we estimate the *gap* in the following way:
1) We estimate the long-run relationship between GDP (*Y*) and the Net Capital Stock (*K*):

$$Y_t = \alpha_0 + \alpha_1 K_t + u_{yt} \tag{1}$$

where α_i are the parameters to be estimated, the subscript *t* stands for time, u_{yt} is an error term, and *Y* and *K* are expressed in natural logs terms. GDP series are expressed in local currency at constant prices. Net Capital Stocks were calculated following Berlemann and Wesselhöft (2012) using the Gross Fixed Capital Formation series measured in local currency at constant prices[9]. Data series used were obtained from the World Development Indicators database of the World Bank and World Penn Table version 9.0.

Then we obtain *EC* as the estimated value of Y_t.
2) Once the *EC* series is obtained, we get the *gap* as the GDP to *EC* ratio.
b) We estimate the long-run relationship between *PB* and the *gap*:

$$PB_t = \beta_0 + \beta_1 gap_t + u_{gapt} \tag{2}$$

where β_i are the parameters to be estimated and u_{gapt} is an error term. Then we obtain *CPB* as the estimated value of PB_t.
c) Once *CPB* is obtained, *CAPB* is derived as follows:

$$CAPB_t = PB_t - CPB_t \tag{3}$$

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9 Following Shaikh, (2016) we adjust the net capital stock by the GDP price index to eliminate any spurious relative price term from the cointegration relationship between the GDP and the capital Stock.

The main difference between our methodology to calculate the *CPB* and previous methods is our use of the *EC* as the potential output[10]. Before estimating the long-run equation (1), we present the unit root test for the relevant variables (see table 2). As it can be seen, all series are integrated of order one.

Table 2. Unit root test for the *Y* and *K* variables.

Variable	Y_t	$d(Y_t)$	K_t	$d(K_t)$
	Canada			
	1961 - 2019			
ADF test	-2.54	-5.25*	-2.30	-4.82*
PP test	-2.54	-5.25*	-2.11	-4.77*
	Mexico			
	1960 - 2019			
ADF test	-2.00	-5.11*	-1.24	-4.32*
PP test	-2.00	-5.06*	-1.21	-6.59*
	United States			
	1972 - 2019			
ADF test	-1.67	-5.04*	-3.49***	-3.85*
PP test	-1.30	-5.06*	-2.32	-2.66***

* and *** are statistically significant at the 1% and 10% levels.
Notes: All variables are in natural logs. The number of lags included for the ADF tests are based on the Schwarz information criterion; the optimal bandwidth used for the PP tests are based on the Newey-West criterion. d(Z) stands for the first time difference of variable Z. Level tests are conducted assuming the existence of intercept and trend; first difference tests are conducted assuming the existence of intercept.
Source: Authors' elaboration using data from the World Development Indicators database of the World Bank and the Penn World Table version 9.0.

Table 3 presents the estimation of equation (1) for each scrutinized economy based on the bound test approach cointegration methodology (see Pesaran, Shin and Smith, 2001)[11]. As it was expected, for the three scrutinized countries, *EC* reacts positively to *K*.

Table 3. Estimation of the Economic Capacity (equation (1)).

Dependent variable: Y_t			
Long-run relationship			
Country	Canada	Mexico	United States
Period	1963 - 2019	1964 - 2019	1974 - 2019
Constant	1.17*	12.49*	2.03***
	(1.06)	(0.67)	(1.05)
K_t	0.93*	0.57*	0.90*
	(0.01)	(0.02)	(0.03)

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10 See Shaikh and Moudud (2004) for a discussion about the advantages of estimating the potential output using the long-run relationship between *EC* and *K* over alternative methodologies.
11 This approach is applicable regardless of whether the underlying regressors are purely I(0), purely I(1), mutually cointegrated or any combination of these characteristics. This is, indubitably, a considerable advantage given the low power of the unit root test and the relatively small size of our data for each country.

D7598	1.91*** (1.06)		
D0819	14.74*** (2.00)		
D7598·K_t	-0.07*** (0.04)		
D0819·K_t	-0.50* (0.07)		
D8619		-2.15*** (1.16)	
D8619·K_t		0.07*** (0.04)	
D8699			-17.92* (1.48)
D0009			9.65* (1.96)
D8699·K_t			0.58* (0.05)
D0009·K_t			-0.30* (0.06)
D1019·K_t			0.004* (0.001)
Model type	Restricted constant, no trend		
ARDL Model	(2, 2, 2, 2, 2, 1)	(2, 3, 0, 4)	(2, 0, 2, 2, 0, 2, 1)
F-Bounds test			
F-Statistic	5.89*	10.94*	13.90*
Adjustment coefficient			
u_{Yt-1}	-0.46*	-0.45*	-0.96*
Jarque-Bera test	1.12	2.41	2.88
LM test (F-statistic, 1 lag)	0.46	2.29	2.42
White test (F-statistic)[a]	0.73	1.04	0.84
Ramsey Reset test (t-statistic, 1 fitted term)	1.28	0.67	0.78

[*] and [***] are statistically significant at the 1 % and 10% levels; standard errors in parenthesis.

[a] White tests do not include cross terms.

Notes: All variables are in natural logs. We used some dummy and composed dummy variables to capture structural breaks: DXXYY stands for a dummy variable with a value equal to 1 from 19XX(20XX) to 19YY(20YY) and 0 otherwise. ARDL model indicates the number of lags of the dependent and independent variables. A complete report of the estimation, including the fixed regressors used in each case, is available upon request from the authors.

Source: Authors' elaboration using data from the World Development Indicators database of the World Bank and the Penn World Table version 9.0.

Before estimating the long-run equation (2), we present the unit root test for the used variables in table 4. As it can be seen, all variables are stationary, so we estimate the long-run relationship (2) applying the bound test approach cointegration methodology[12].

Table 4. Unit root test for the *PB* and *gap* variables.

Variable	PB_t	gap_t
	Canada	
	1961 – 2019	
ADF test	-3.06*	-3.36**
PP test	-2.56**	-3.39**
	Mexico	
	1960 – 2019	
ADF test	-2.12**	-3.59*
PP test	-2.05**	-3.53**
	United States	
	1972 – 2019	
ADF test	-2.78*	-5.37*
PP test	-2.29**	-3.28**

* and ** are statistically significant at the 1% and 5% levels.
Notes: The number of lags included for the ADF tests are based on the Schwarz information criterion; the optimal bandwidth used for the PP tests are based on the Newey-West criterion. *PB* tests are done assuming no intercept and no trend; *gap* tests are done assuming the existence of intercept.
Source: Authors' elaboration using data from the World Development Indicators database of the World Bank, from the Penn World Table version 9.0, and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

It is worth noting that, according to our results (see table 5), when the economies exhibited their normal utilization capacities (*gap* equal to its average), the Canadian economy exhibited a surplus *CPB* equal to 1.43%. In comparison, the Mexican and the United States economies exhibit a *CPB* very near to zero (0.47% and 0.17%, respectively). However, for the case of Mexico, its corresponding value was equal to 4.96% from 1977 to 1992; in this period, Mexico experienced the oil boom, the lost decade, and the privatization episodes, which also covered the transition to the economic liberalization model. In contrast, for the case of the United States from 2002 to 2019 (from the Great Recession to the end of the period under analysis), the corresponding value was equal to -2.38%. So, while the Mexican economy faced a disruptive period by tightening the fiscal policy, the United States faced its disruptive period by easing the fiscal policy. Moreover, according to our results, Canada and the United States exhibit automatic stabilizers. In contrast, Mexico exhibits what we call automatic destabilizers (see graph 3)[13]; when the gap is increased/decreased, the cyclical primary balance is decreased/increased, contributing to moving the aggregate demand further away from economic capacity.

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12 See footnote 3.
13 It has been argued that Mexico's automatic stabilizers are low. However, to the best of our knowledge, the existence of automatic destabilizers had not been established.

Table 5. Estimation of the Cyclical Primary Balance as a percentage of GDP (equation (2)).

Dependent variable: PB_t			
Long-run relationship			
Country	Canada[a]	Mexico	United States
Period	1963 - 2019	1964 - 2019	1974 - 2019
Constant	-68.16*	19.47**	-98.07*
	(11.93)	(7.41)	(29.04)
gap_t	72.81*	-21.93**	103.53*
	(12.58)	(8.53)	(30.71)
D7892		4.49*	
		(0.89)	
D0219			-2.55*
			(0.80)
Model type	Restricted constant, no trend		
ARDL Model	(4, 0)	(2, 0, 1)	(3, 1, 3)
F-Bounds test			
F-Statistic	16.63*	3.94**	8.38*
Adjustment coefficient			
u_{PBt-1}	-0.46*	-0.36*	-0.37*
Jarque-Bera test	0.60	0.89	0.03
LM test (F-statistic, 1 lag)	1.63	0.01	2.30
White test (F-statistic)[b]	1.66***	1.61	0.44
Ramsey Reset test (t-statistic, 1 fitted term)	0.68	0.70	1.30

*, ** and *** are statistically significant at the 1 %, 5 % and 10% levels; standard errors in parenthesis.

[a] Standard errors adjusted by the Newey-West procedure.

[b] White tests do not include cross terms for the cases of Canada and Mexico.

We used some dummy variables to capture structural breaks: DXXYY stands for a dummy variable with a value equal to 1 from 19XX(20XX) to 19YY(20YY) and 0 otherwise. ARDL model indicates the number of lags of the dependent and independent variables. A complete report of the estimation, including the fixed regressors used in each case, is available on request from the authors.

Source: Authors' elaboration using data from the World Development Indicators database of the World Bank, from the Penn World Table version 9.0, and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.
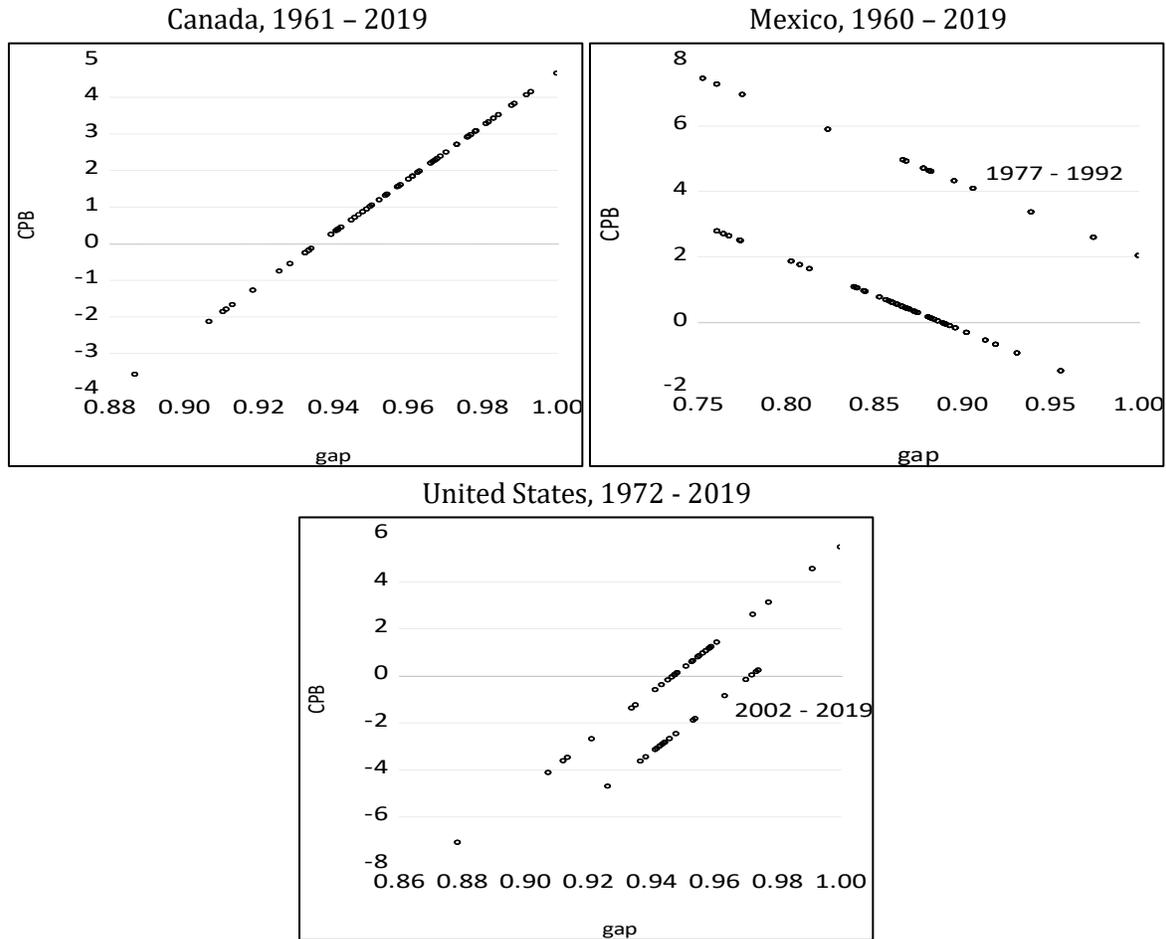
Graph 3. Cyclical Primary Balance (%).

Source: Authors' elaboration using data from the World Development Indicators database of the World Bank, from the Penn World Table version 9.0, and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

Once we obtain the *CPB*, using equation (3) we determine the *CAPB* for each of the scrutinized economies, then we found five subperiods in which the Canadian economy used an expansive discretional fiscal policy, 1976 – 1979, 1983 – 1996, 2002 – 2005, 2010 – 2013, and 2018 – 2019. For the case of the Mexican economy, we found four expansive discretional fiscal policy subperiods, 1960 – 1965, 1974 – 1982, 1993 – 1999, and 2009 – 2016. Finally, for the case of the United States economy, we found five expansive discretional fiscal policy subperiods, 1972 – 1973, 1976 – 1978, 1983 – 1994, 2003 – 2012, and 2018 – 2019.

The aggregate demand automatic stabilizers' effect can be compensated or reinforced using a contractive or an expansive discretional fiscal policy. For Canada and the United States cases, we identify a countercyclical discretional fiscal policy when it is used to reinforce the automatic stabilizers and the other way around. In contrast, we categorize a procyclical discretional fiscal policy for Mexico's case when it is used to reinforce the automatic destabilizers and the other way around (see table 6)

Table 6. Public Debt accumulation as a percentage of GDP and growth rate (annual averages)
Canada, 1961 – 2019.

$\Delta PB, g$	Expansive $CAPB$	Contractive $CAPB$
Expansive CPB	2.28%, 2.19% (countercyclical)	0.28%, 3.17% (procyclical)
Contractive CPB	1.17%, 3.30% (procyclical)	-2.51%, 4.38% (countercyclical)

Mexico, 1961 – 2019

$\Delta PB, g$	Expansive $CAPB$	Contractive $CAPB$
Expansive CPB	2.16%, 5.18% (procyclical)	-1.04%, 4.18% (countercyclical)
Contractive CPB	1.75%, 3.83% (countercyclical)	1.31%, 1.10% (procyclical)

United States, 1972 – 2019

$\Delta PB, g$	Expansive $CAPB$	Contractive $CAPB$
Expansive CPB	3.73%, 2.44% (countercyclical)	0.62%, 1.41% (procyclical)
Contractive CPB	1.58%, 3.67% (procyclical)	-2.17%, 3.47% (countercyclical)

Source: Authors' elaboration using data from the World Development Indicators database of the World Bank, from the Penn World Table version 9.0, and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

In Canada, when the contractive fiscal policy reinforced the automatic stabilizers, g was equal to 4.38%, while when it counteracted the automatic stabilizers, g was equal to 3.17%. On the other hand, when the expansive discretional fiscal policy reinforced the automatic stabilizers, g was equal to 2.19%, while when it counteracted the automatic stabilizers, g was equal to 3.30%. The Canadian economy implemented an expansive discretional fiscal policy when it faced its worst recessive periods and used a contractive one to meet its best expansive periods.

In the case of Mexico, when a contractive fiscal policy reinforced the automatic stabilizers, g was equal to 1.10%, while when it counteracted the automatic stabilizers, g was equal to 4.18%. On the other hand, when the expansive discretional fiscal policy reinforced the automatic stabilizers, g was equal to 5.18%, while when it counteracted the automatic stabilizers, g was equal to 3.83%. So, when the Mexican economy faced strong recessions, the policymakers implemented a restrictive fiscal policy, and when it met with huge expansions, they adopted an expansive one.

In the United States, when a contractive fiscal policy reinforced the automatic stabilizers, g was equal to 3.47%, while when it counteracted the automatic stabilizers, g was equal to 1.41%. On the other hand, when the expansive discretional fiscal policy reinforced the automatic stabilizers, g was equal to 2.44%, while when it counteracted the automatic stabilizers, g was equal to 3.67%.

It is worth noting that public debt decumulation has been observed during expansive episodes in Canada and the United States. In contrast, public debt decumulation in Mexico has been observed during recessive periods. While it could be indifferent when there is a public debt decumulation process, the main difference between Canada and the United States, on the one hand, and Mexico, on the other hand, is the effect on the growth rate of the EC (ec). While Canada and the United States decumulate public debt while ec is increasing, Mexico does it while ec is decreasing (see graph 4). So Mexico's cost is a lower potential economic growth; therefore, the public debt decumulation can be reversed over time.

Canada, 1961 – 2019

Mexico, 1961 – 2019

United States, 1972 – 2019.
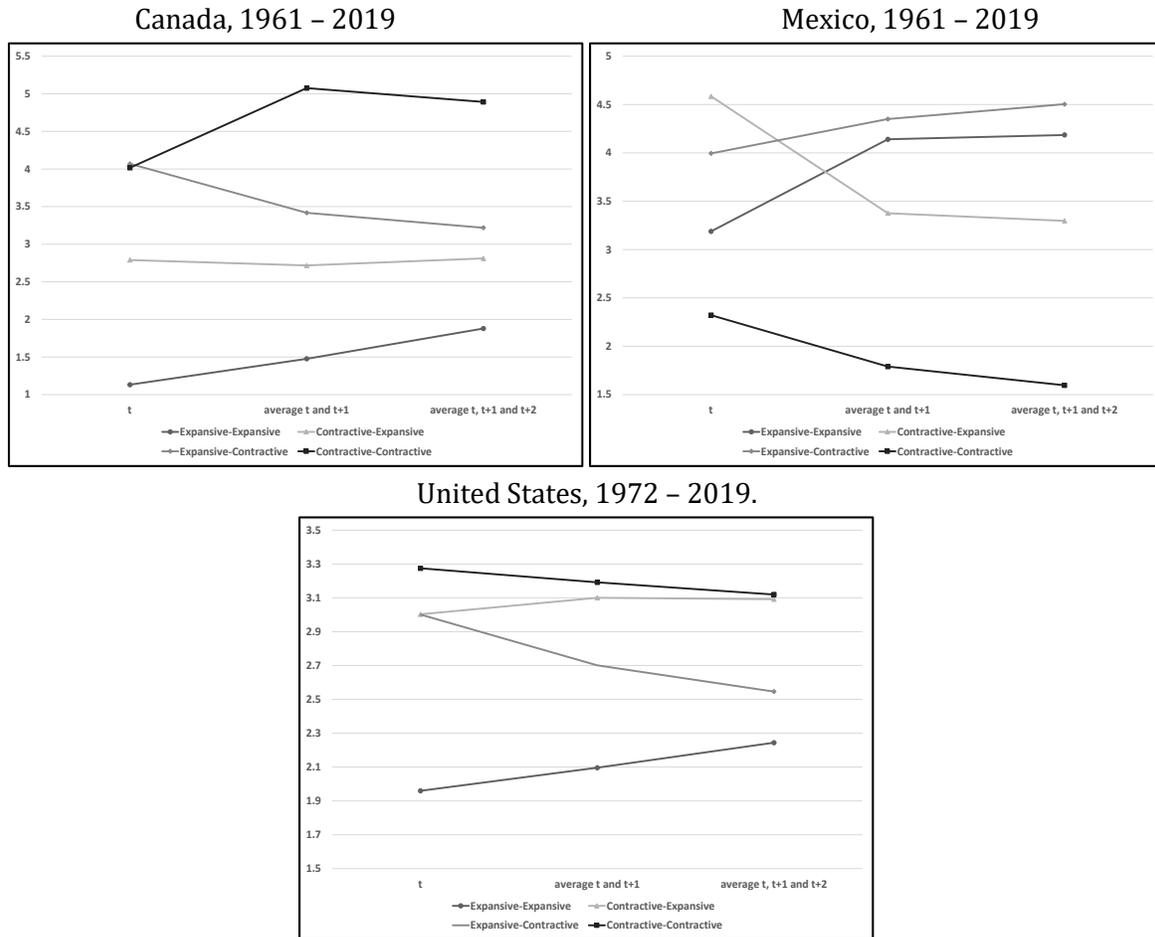
Graph 4. Annual growth rate of the economic capacity (%) during and after a specific combination of automatic and discretional fiscal policy.

Source: Authors' elaboration using data from the World Development Indicators database of the World Bank, from the Penn World Table version 9.0, and the Public Finances in Modern History and Fiscal Monitor databases of the International Monetary Fund.

5. Final remarks.

According to the New Consensus in Macroeconomics and the rational expectations approaches, a budget deficit during crises periods is not effective due to the Ricardian Equivalence Hypothesis. Budget deficits result in higher public debt and lower economic activity, mounting intense pressure on governments' financial obligations.

However, according to the Post-Keynesian and Kaleckian approaches, the premises supporting the negative effects of a budget deficit on the economy are very weak. A countercyclical fiscal policy is required to complement the aggregate demand. Public debt accumulation as a GDP percentage could not be important if the growth rate of economic capacity is increased. The problem is not public debt itself but whether it is encouraging economic activity. A small public debt can become a worrying value as a percentage of GDP if the government is not encouraging economic activity.

Based on our empirical analysis, an asymmetric fiscal policy stands across USMCA economies. While Canada and the United States are using a countercyclical fiscal policy, Mexico implements a procyclical one. Current times are not normal times; therefore, Mexico must use its available fiscal policy space as much as Canada and the United States do. It can be argued that the use of fiscal policy in an open economy context is not useful (see Mundell, 1963); however, beyond some criticisms against that postulate, our proposal consists of a fiscal policy focused mainly on public investment. Public investment could reduce the demand for imports (see Vázquez Muñoz, 2018), which is the central obstacle to the effectiveness of fiscal policy. Moreover, our idea is in line with the public investment package announced by the United States government equivalent to 16% of GDP, which would produce positive externalities for the rest of the world, including Mexico. Moreover, the expansive fiscal policy would not generate inflation given the low value of the gap.

As indicated, it is not useful to decimate the public debt at the cost of a lower ec, especially in the Mexican economy, whose ec has been very low over the last decades. The reduction of the potential output growth has adverse effects on the population's welfare and could reverse the decimation of the public debt given the lower potential economic activity. Public debt can indeed be a drag, but as indicated, Chudik et al. (2017) demonstrated that considering global interdependence and common shocks, there is no a determined threshold effect in the relationship between public debt to GDP ratio and the growth rate.

Mexico should also abandon its current automatic destabilizing fiscal policy design by implementing automatic measures to support households and firms during crises periods and executing a progressive fiscal reform. The current fiscal policy design in terms of the automatic stabilizers contributes to increasing the volatility of the growth rate, generating uncertainty, and discouraging investment plans.

Loose discretional fiscal policy contributes to stabilizing aggregate demand and growth rate in Canada and the United States. According to the IMF's Fiscal Monitor database, the Government Primary Balances as a percentage of GDP for Canada, Mexico, and the United States during 2020 were equal to -19.83%, -1.96%, and -16.69%, respectively. In contrast, according to official sources, their growth rates were equal to -5.5%, -8.3%, and -3.5% respectively, showing the importance of a countercyclical fiscal policy despite some public debt accumulation.

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