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# Inflation, tax evasion, and the distribution of consumption

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**Abstract**

We analyze the effects of inflation both on tax compliance and on the amount of government revenues in the framework of a monetary economy where households face a cash-in-advance constraint on consumption purchases. Since households are exposed to random audits from the tax enforcement agency, the stationary equilibrium exhibits a non-degenerate distribution of consumption. Our main results include a non-monotonic characterization of the relationship between the rate of monetary expansion and government revenue. This is in contrast to the standard cash-in-advance model with no evasion, where that relationship is monotonic. In our model, as government creates inflation, the penalty imposed on evaded taxes becomes smaller in real terms. This stimulates tax evasion and, hence, aggregate revenue turns out to be decreasing in the rate of monetary expansion when inflation is sufficiently high. Even if inflation raises the variance of the distribution of consumption, we show that high inflation rates end up being welfare enhancing.


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## 1. Introduction

All the tax codes around the world contain a series of provisions concerning tax enforcement. Without these provisions no rational, selfish taxpayer would voluntarily report his true taxable income. Tax authorities conduct random inspections of the reports submitted by taxpayers and, if a taxpayer is caught evading, he has to pay a fine proportional to the amount of evaded taxes. Usually, the tax inspection occurs some months or years after taxpayers have submitted their income reports. In this scenario, inflation modifies the real payoffs of the risky investment implicit in tax evading activities. In particular, the nominal fine paid by caught tax evaders could be substantially reduced in real terms when the economy is experiencing a hyperinflationary process. Inflation could then result in both less voluntarily paid real taxes and less real revenue accruing from the fines imposed on audited taxpayers. This negative effect of inflation on the real fiscal revenue is dubbed the Tanzi–Olivera effect (see Tanzi, 1977; Olivera, 1967). Fishlow and Friedman (1994) pointed out that one of the consequences of the Tanzi–Olivera effect is that governments facing a large amount of evasion due to inflation will increase the rate of monetary growth in order to get additional inflationary financing. Therefore, the Tanzi–Olivera effect adds extra difficulties to the stabilization efforts of countries experiencing inflation. The empirical estimation conducted by Fishlow and Friedman for the cases of Argentina, Brazil and Chile seems to confirm the relevance of the aforementioned effect.

The aim of this paper is to analyze the effects of inflation on tax compliance and on the revenue raised by the government. The novelty of our approach is that we undertake the analysis within a dynamic general equilibrium framework where inflation and tax evasion are phenomena arising as by-products of monetary policy. In order to make explicit the relationship between the rate of monetary expansion and inflation, we introduce a cash-in-advance (or liquidity) constraint on the purchases of consumption goods. Therefore, money will have positive value in equilibrium. Moreover, since the government has the monopoly of issuing money, there will be room for seignorage.

One feature of the standard monetary model with liquidity constraints when tax evasion is absent is that government can always raise its revenue by increasing the rate of monetary growth. In fact, the resources absorbed by the government can become arbitrarily close to the total resources of the economy by selecting a sufficiently high rate of monetary growth. In this paper we will show that this monotonic relationship does not longer hold when tax evasion is present. Following the aforementioned contributions of Tanzi and Olivera, we show that, due to both the delay in tax auditing and the lack of indexation of fines, taxpayers will decrease the amount of reported income and, thus, the real fiscal revenue from taxes and fines could also decrease with inflation. Moreover, we will show that the plot of the total revenue raised by the government, accruing from both tax collection and seignorage, against the inflation rate exhibits and inverted U-shape. This means in particular that a given level of feasible government revenue (or government spending under balanced budget), can be financed by two different rates of monetary growth. At the low-inflation equilibrium government spending is locally increasing in the rate of monetary