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# On inflation as a regressive consumption tax<sup>☆</sup>

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## Abstract

Evidence on the portfolio holdings and transaction patterns of households suggests that the burden of inflation is not evenly distributed. We build a monetary growth model consistent with key features of cross-sectional household data and use this framework to study the distributional impact of inflation. At the aggregate level, our model economy behaves similar to standard monetary growth models within the representative agent abstraction. Inflation has, however, important distributional effects since it is effectively a *regressive* consumption tax. Thus, neglecting the distributional consequences of inflation may prove misleading in assessing the effects of inflation in our economy. © 2002 Elsevier Science B.V. All rights reserved.

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## 1. Introduction

The literature on the welfare cost of inflation has largely ignored the distributional effects of inflation. However, the heterogeneity in household wealth composition and transaction patterns observed in the data suggest that the burden of inflation borne by poor individuals may be significantly higher than for rich individuals. Consider the following facts regarding wealth composition and transaction patterns for households in the US:

- Observation 1: High income individuals use cash and cash plus checks for a smaller fraction of their total transactions than low income individuals (Avery et al., 1987).
- Observation 2: The fraction of household wealth held in liquid assets decreases with income and wealth (Wolff, 1983; Kessler and Wolff, 1991; Kennickell and Starr-McCluer, 1996).
- Observation 3: A non-trivial fraction of households do not own a checking account and/or do not own or use credit cards to perform transactions (Avery et al., 1987; Kennickell et al., 1997; Mulligan and Sala-i-Martin, 2000).

We develop a monetary growth model that is consistent with the evidence on heterogeneity in transaction patterns and portfolio holdings across individuals to assess the distributional impact of inflation. Our model economy behaves, at an aggregate level, in a manner similar to standard monetary growth models within the representative agent abstraction. Inflation has, however, important distributional effects. We find that the burden of inflation is substantially higher for individuals at the bottom of the income distribution than for those at the top. Moreover, inflation leads to an important redistribution of assets across individuals. These findings are robust to various alternative specifications of costly credit transactions. Thus, in evaluating the impact of inflation in our economy, neglecting the distributional consequences of inflation can be quite misleading.

In our economy, individuals allocate assets between capital and money and perform transactions using either cash or costly credit. Money is a poor store of value since it is dominated in rate of return by capital; nevertheless, individuals hold money because they value a large number of consumption goods and purchasing goods with credit entails buying credit services. If the technology for transacting with credit exhibits economies of scale, inflation may have important distributional effects. In particular, if the amount of credit services required is a non-increasing function of the total amount of goods purchased, inflation implies that the per-unit cost of transacting is inversely related to the level of consumption. High income households face a lower per unit cost of credit purchases than their low income counterparts since they consume more than low income households. As a result, they pay a higher fraction of their purchases with credit and they hold less money as a fraction of total assets than low income households. In this respect, inflation operates as a non-linear *regressive* consumption tax, for high income households are better able to avoid the inflation tax than those with low incomes. Alternatively, if the technology for transacting does not exhibit scale economies, the model is

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