SIMULATION OF A FIRM'S DEFAULT IN AN ECONOMY WITH NON-CONSUMABLE MONEY

DMITRY LEVANDO NRU-HSE,

MAXIM SAKHAROV,

BAUMAN MSTU, MOSCOW, RUSSIA

DANIIL ZAYTZEV, NRU-HSE

D.Levando is the contact author: d_levando (at) hotmail.com .

Abstract. We study impact of credits issued in **non-consumabl**e money and state of default of a firm in one period economy. Non-consumable means that money left after a trade has no intrinsic value (deliver zero utility), but a non-payed monetary debt supplies disutility for a borrower. Financial performance of a borrowing firm is measured in terms of Tobins-Q, a ratio of cash inflow from sales over labor costs.

A firm is run by an entrepreneur, who values consumption and self-respect in terms of time of a worker. This means that we reject the view that an entrepreneur maximizes a cash flow measured in non-consumable money, and substitute it with a managerial view of an entrepreneur. A worker has a trade-off between leisure and labor, as in Becker, (1968). In other details we follow the framework of Shubik, Wilson, (1977). They suggested to use a punishment for default to regulate demand for credits, and in this way, introduced a default as an equilibrium phenomenon within a Walrasian economy.

The resulting model has 4 regimes, able to study interactions between real (production and consumption) and financial (operations with non-consumable assets) markets, left away in neo-classical economic paradigm. One period consideration of money as non-consumable item differs from those exploited in most traditional macroeconomic approaches. In this work we concentrate only on the case, when a loose credit discipline, measured in terms of a punishment for default, results in over-borrowing of competitive firm and labor and their possible defaults.

In this case of our model the Tobin's-Q deviates from the classical unit benchmark, and starts depending on a punishment for default. A spill-over of default of a borrower to a creditor becomes a possible outcome. We present numerical simulations.

The model has the implications for the currently developing global economic crisis, realizing as interactions between real (consumption and production) and financial (savings and over-borrowing) sides of many economies.

Keywords:

JEL : E31,31,41,51; C68,61,72; D58; E30,37; G13,14,17, G21.