UDC 336.6, 336.76

Nevmerzhytskyi Yaroslav,

FRM, National Bank of Ukraine

Is equity an effective inflation hedge?

What role do inflation dynamics play in the determination of the financial performance? In time of high inflation pressure with high volatility the firms need an effective hedge against inflation, especially against unanticipated movements, to survive and protect their assets. So, what inflation hedges exist? The issue whether the particular asset or market instrument can be an effective hedge against inflation or not is of special interest in financial literature.

A vast literature investigates the inflation-hedging characteristics of different asset classes to theoretically project and/or test some hypotheses. Fama and Schwert (1977) postulate that so call Fischer effect from the classic *Theory of Interest* (1930) should hold for all investable assets. Hoevenaars et al. (2008) investigate the behavior of alternative asset classes and assess the inflation hedging potential of commodities nominating them as 'a very attractive from an inflation hedge perspective'. Spierdijk and Umar (2013) investigate the commodity futures on its inflation hedging properties. Traditionally, the equities are nominated as hedge against inflation as long as common stocks represent a claim on the dividend stream of real assets (Lintnnner (1975), Mishin (1992), Chua and Woodward (1982), Boudoukh and Richardson (1993)).

On the other hand, many researchers documented the negative correlation between inflation and equity returns, especially for periods with rising/high inflation (Bodie (1976), Jaffe and Mandelker (1976), Fama and Schwert (1977) and Solnik (1983)), developing some approaches to provide reasonable explanations for this puzzle, suggesting (1) tax effect hypothesis (Feldstein (1979), Summers (1981)), or (2) inflation illusion hypothesis (Modigliani and Cohn (1979)), or (3) proxy hypothesis (Fama (1981), Geske and Roll (1983), Kaul (1987)).

This study contributes to this literature on an equity return – inflation puzzle by presenting some evidence on possible hedging performance of the equities on emerging markets.

The analysis starts from the Fischer postulate that expected inflation should not affect real rate of return and the nominal interest rate consist of the real term component and the inflation component:

$$(1 + i) = (1 + r)(1 + \pi).$$

We can rewrite the equation to include coefficients a and b:

$$(1 + i) = (1 + ar)(1 + b\pi).$$

As long as equity is an effective inflation, the decomposition of nominal equity return should give the coefficient b in the equation (1) to be time-invariant and (2) to be equal 1. Taking linear approximation and presenting real return component through valuation fundamentals (changes in expected cash flow – g – and expected capitalization rate – r_c) we can modify the Fischer equation and write it down as

$$i \approx \alpha + \gamma_1 g + \gamma_2 r_c + \beta\pi + \varepsilon.$$

We define the nominal rate of equity return as logarithmic return on market equity index – first difference of natural logarithm of the PFTS index levels (i). The time horizon is a month. As a proxy for inflation we use month-to-month consumer price index (π). We model the real return component with the index of business activity (changes in the seasonally-adjusted levels) and short-term market interest rate. All data are monthly for the period from 2000M01 to 2016M03, rates are not annualized. We illustrate the inflation-hedging properties of the equity market for different time periods, including the pre, post and between crises (in 2008) periods.

Results indicate the poor hedging performance of the equity.

Over the period 2001-2016 the beta coefficient is significantly lower than the theoretically expected (ideal) level and equals 0.455. The short-run interaction between equity return and inflation is poor and the equity has very limited inflation-hedging abilities. More over the beta coefficient is dramatically unstable with value depending on the period used for modeling. All models with different period settings consistently find that the equity provide no inflation hedge, e.g. the beta is even negative (-0.208) for the period 2014-2016 and extremely high for the period 2009-2013 (3.700), with the situation slightly different for different inflation incorporation.

The results are sensitive to the to time horizon of the data used. If the longer holding period (investment horizon) is used instead of monthly period, the equity demonstrate slightly better inflation hedging performance. The difference in the equity hedging properties is statistically significant at 0.05, but the economic significance of this increased hedging capacity is very limited. One reason for this difference might be that the market expectation over inflation and its incorporation in the market prevailing pricing mechanism are more accurate on the longer holding time horizon (e.g. quarterly over monthly returns).

Some issues this paper has ignored leaving them for further research. They are the following. Firstly, we can try different hedging measure to check whether the result is sensitive to the model specification. Secondly, it can be interesting to understand the equity hedging properties in the context of decomposing the inflation into it anticipated component (expected or forecasted inflation) and unanticipated component to understand short-run behavior of the equity market. And lastly we would like to examine the implication of the inverted Fischer hypothesis to the equity return – inflation relation.

УДК 336.7

Щетинін А.І.,

д.е.н., професор кафедри грошового обігу та банківської справи

Університету митної справи та фінансів

Деякі питання мінімізації кредитних ризиків

Розвиток ринкових відносин в Україні обумовлюється цілою низкою різноманітних чинників як економічного так і політичного характеру Серед економічних одним із найбільш суттєвих виступає функціонування с талої і динамічної банківської системи

Надійність і сталість банківської системи нашої держави забезпечується перш за усе діяльністю комерційних банків які як відомо є універсальними установами що розміщують наявні у них кошти з метою отримання прибутку Це активні операції банку і серед них найважливіші це кредитні операції Організація