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Impact of Tighter Monetary Policy on Shopping Mall Business Valuation in Russian Market

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ABSTRACT

The aim of this article is to research how more tightening monetary policy affects shopping mall value within mergers and acquisions (M&A) deal. Our methodology is based on business valuation and accountant methods. We investigated how EBITDA of target asset reflects on maximal acquision price.
We found that EBIDA is more dependent on rent indexation and behaves in linear way. While credit rates rely on monetary policy and it is non-linear. Finally, when credit rates are decreasing there are more opportunities for shopping mall acquision that there were previously when lending resources were more expensive, and vice versa.

Keywords: EBITDA, Monetary policy, credit rate, shopping mall valuation, M&A, commercial real estate, real estate

Introduction

In this paper, we research how more tightening monetary policy affects asset value. The subject of the study is long-term behavior of investors who buy commercial real estate in Russian market. Our scientific hypothesis is that more tightening monetary policy affects business value within merger & acquision deal. We research how more tightening monetary policy affects shopping mall value within mergers and acquisions (M&A) deal.

Our research is based on previous works such as Taylor (2000); Carriere-Swallow et al. (2021) where it was shown how microeconomic model of price is connected with monetary policy. Bottero, et al. (2016) revealed that the contraction of the credit supply led to reductions in investments and employment. Jung lee et al., 2020 found out that before banking crisis pressure in asset valuation materialized first. We should also note Yilmazkuday, 2020 who investigated the corresponding effects of COVID 19 pandemic on the global economic activity.

Our methodology is based on business valuation and accountant methods. We investigated how EBITDA of target asset reflects on maximal acquision price.

We found out that asset value in view of commercial real estate is more dependent on rent indexation and behave in linear way. While credit rates rely on monetary policy and it is non-linear in dependence of asset value and debt rate.

Theoretical Background

In last decade before COVID 19 pandemic, in many countries the decline in inflation ihad important implication for monetary policy (Taylor, 2000). Taylor (2000) shows how changes in firm pricing power affect output and inflation dynamics. There are many works where dependence between monetary policy, credit supply and real economy was discussed (Bottero et al., 2015; Degryse et al, 2019; Humbert and Maule, 2021; Ali Nazir et al, 2020; Ivashina and Scharfstain, 2010; Amiti and Weinstein, 2018; Campello et al, 2010).

At the same time, global financial crisis in 2008 had changed approach to monetary policy in many countries. Zero-level or even negative credit rates became the new normal. Many works explore the situation of financial stability after crisis in 2008 (Ivashina and Scharfstain, 2010; Campello et al, 2010; Altavilla and Ciannone, 2016; Jung Lee, 2020). Nonetheless, long period of accommodative monetary policy and measures of supporting the population and business during COVID 19 pandemic have led to high inflation pressure in global economy. After that monetary policy is changing in tighter way.

Global financial crisis in 2008 changed approach to monetary policy in whole. In many developed countries interest rates became extremely low or even negative. In our paper, we explore how monetary policy affects business value within merger & acquision deal. Bottero et al, (2015) reveal impact on

credit supply on the real economy. They show that contraction in credit did not depend on a company size but it negatively affected the investment and employment decision of small firms. We consider merger & acquision deal as sort of investment decision. In addition, our subject are small and medium size companies.

Degryse et al (2019) studies bank-firms interaction as well. They found out that firms borrowing from banks with negative supply shocks exhibit lower financial growth. Ivashina and Scharfstein (2010) studied lending supply and borrowers' behavior during the financial crisis of 2008, there was simultaneous run by borrowers, who drew down credit lines, and arising a number of commercial and industrial loans. Amiti and Weinstein (2018) also show that lending supply shock has a large impact on firm investment. Campello et al (2010) research the global financial crisis in view of constrained credit and firms behavior. They show that tighter financial conditions lead to deeper cuts in tech spending, employment and capital spending. At the same way, we consider dependence between credit rate and investment decision at micro-level.

We research our subject in COVID 19 pandemic period which led to changes in monetary policy. Thus, we base on works where banking crisis and changes in monetary policy were scrutinized. Jung Lee (2020) explores financial vulnerabilities before and after banking crisis. He found out that pressure in asset valuation had materialized first before banking crisis. Carriere-Swallow et al (2016) reveal strong link between exchange rate pass-through to consumer prices and the monetary policy regime's performance. Altavilla and Ciannone (2016) researched monetary policy after financial crisis of 2008. They analyzed market expectations over different forecasting horizons. Hubert and Maule (2021) explored private agents' behavior in view of monetary policy decision and central bank action. Ali Nasir et al (2020) analyzed inflation expectations and economic determinants. They show considerable nonlinearities and asymmetries. Baurle et al (2017) found evidence of substantial heterogeneity in the magnitude of international inflation spillovers to domestic inflation. There is relation between fundamental source of international price fluctuation and the monetary policy reaction.

Methodology

Our methodology is based on business valuation and accountant methods. We investigated how EBITDA of target asset reflects on maximal acquision price. Our assumptions are

- We explore investment into shopping mall as a particular type of commercial real estate
- Base of revenue for such type of real estate is lease payments
- Lease agreement is long term contract with fixed annual indexation

- All of tenants have the same lease contract with fixed annual indexation of payments

Our methodology relies on business valuation standards in purpose of lending. Our subject is shopping center with M&A deal. We reveal maximal lending value which our subject can service by using Debt Service Coverage Ratio (DSCR):
In Russian banking standards DSCR should be 1,3.

$$DSCR = const = 1,3$$

$$\frac{EBITDA - tax}{TDS} = DCSR = 1,3 \qquad (1)$$

where EBITDA – earnings before interest, taxes, depreciation and amortization
tax – income tax
TDS – total debt service
We assume:
EBITDA=const

We buy object by 100% Borrowed capital If we know credit rate and month payment for borrowed capital. So we can calculate Maximal purchasing price for the asset.

$$\text{Then, } TDS = MaxBV * \left(r + \frac{r}{(1+r)^n - 1} \right) = \frac{EBITDA - tax}{1,3}, \qquad (2)$$

where MaxBV – Maximal purchasing price for the asset by 100% borrowed capital
r – month credit rate
n – number of lending months

$$\text{So, } MaxBV = \frac{EBITDA - tax}{1,3 * \left(r + \frac{r}{(1+r)^n - 1} \right)}. \qquad (3)$$

Results and Findings

In result, we reveal maximal size of lending value when lending rate was determined previously. Additionally three month later our subject could attract more funding and was valuable (Fig.1) But owing to changes in monetary policy regime credit rate arose. Maximal lending value decreased. Investor faced financial pressure and should extend own capital rate within deal. Main M&A deal setting in table 1.

Table 1. *Main M&A Deal Setting*

Indicator	Value	Note
EBITDA	10 651 672,53 ₽	
TDS	6 939 200,35 ₽	
Income tax	1 624 265,07 ₽	
Investor interest	2 088 207,12 ₽	
DSCR	1,54	Banking standards DSCR=1,3
R	12,11%	Current lending rate
MaxBV	481 529 238,04 ₽	
CapRate	27%	Target rate - 25%

Figure 1. *Asset Value Function*
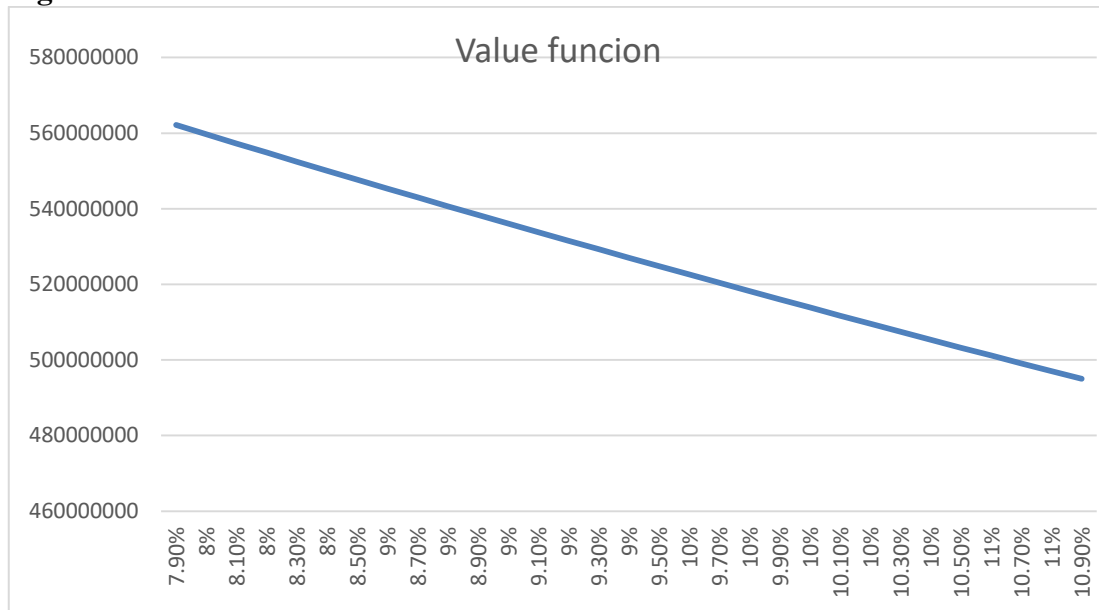
We found correlation between credit rate and business value. An increase in the rate by 1% from a value of 7.9% to 8.9% entails a decrease in asset value by 3.72%, and an increase in the rate from a value of 8.9% to 9.9% - by 3.67%. The dependence is non-linear, since it is based on a power function.

In our research, we confirmed that the contraction in credit supply and tighter monetary policy negatively affected to investment decision on micro-level. Our research goes well with the existing paradigm of research on this topic (Bottero et al., 2015; Degryse et al, 2019; Humbert and Maule, 2021; Ali Nazir et al, 2020; Ivashina and Scharfstain, 2010; Amiti and Weinstein, 2018; Campello et al, 2010). We also show how changes in monetary policy can be measured by business valuation approach

Conclusion

Despite COVID 19 pandemic restrictions M&A market offers good opportunity for purchasing objects. Main reason is continued lowest credit rate level in history. Afterwards financial crisis of 2008 monetary policy has changed to lowest in history interest rates. Nevertheless, COVID 19 pandemic crisis revises the situation again.

In our research, we show that tighter monetary policy negatively affected investment decision on micro-level. Changes in monetary policy affect business valuation and they are measurable.

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