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**Department of Banking and Finance**

# Do firms repurchase stocks when they are undervalued? Evidence from Germany and Switzerland

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**Author**

Philippe Markus Kunz

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**Supervisor:** Philipp Lentner

**Chair:** Prof. Dr. Kjell G. Nyborg

Corporate Finance

University of Zurich

# Executive Summary

## Introduction

Stock repurchases are a relatively new phenomenon in the German and Swiss markets. Unlike in the United States of America (US), where share repurchase programs (SRPs) were already governed in the Securities Exchange Act of 1934, share buybacks were essentially prohibited in Germany until 1998 and seemed to be merely inexistent in Switzerland until 1993 (Allen & Michaely, 2007; Andres, Betzer, Doumet & Theissen, 2016; Hackethal & Zdantchouk, 2006; Chung, Isakov & Pérignon, 2007). Given this remarkably timeous advance in legislation, it is not surprising that most of the existing literature covering share repurchases focuses on the US market. In these studies, researchers have revealed that the notion of undervaluation is of major importance in explaining the motivation and the timing of share repurchases.

Although several investigations of buybacks show that motives such as the increase of earnings per share (EPS), the substitution of dividends or the reduction of agency costs also play a role in the decisions to repurchase one's own shares (e.g. Stephens & Weisbach, 1998; Grullon & Ikenberry, 2000; Dittmar, 2000), evidence regarding long-term abnormal performance following repurchase announcements indicates that, on average, managers repurchase shares when they are undervalued (e.g. Ikenberry, Lakonishok & Vermaelen, 1995, 2000; Peyer & Vermaelen, 2009). This is consistent with the findings of Brav, Graham and Michaely (2005) who reveal that more than 85% of surveyed chief financial officers (CFOs) in the US agree with the supposition that they repurchase when they consider their company's stock to be underpriced. Moreover, about fifty percent of interviewed executives state that they time their repurchase and are able to beat the market when reacquiring shares (Brav et al., 2005). This behavior of repurchasing shares when the share price is low is known as „equity market timing“ and allows managers to take advantage of mispriced shares (Baker & Wurgler, 2002). With regard to repurchases, this is possible when the market under-reacts to the information conveyed in the repurchase announcement (Grullon & Ikenberry, 2000; Vermaelen, 2005).

The ability of managers to time the market and repurchase shares when they are undervalued has been tested and confirmed in several studies (e.g. Ikenberry et al., 1995, 2000; Dittmar & Field, 2015). Therein, multiple measures have been applied to detect undervaluation and the timing ability of managers. Still, it remains unclear whether this phenomenon is unique to North America or whether it is also relevant for European repurchases. Lasfer (2000) finds no evidence of market under-reaction after repurchase announcements in Europe. However, Vermaelen (2005) argues that the narrow sample period and the relatively new existence of buybacks in Europe at the time of the study may impair the meaningfulness of the study. In a more recent study, Manconi, Peyer and Vermaelen (2015) find evidence of positive long-term excess returns on a global scale. Therefore, given the increasing popularity of share buybacks in Germany and Switzerland (Sendel-Müller, 2009; Chung et al., 2007; Stacescu, 2006) and the fact that managers in these countries also state that they repurchase when and because their company's stock is undervalued (e.g. Zellweger Luwa AG (2001-12-04); Software AG (2015-09-03)), this thesis aims at providing evidence either for or against the equity market timing hypothesis in Germany and Switzerland (i.e. to reveal whether German and Swiss firms systematically repurchase shares when they are undervalued).

## Procedure

Using several sources of information, a sample consisting of 873 (620 German and 253 Swiss) repurchase announcements in the period from 01.01.1997 to 31.12.2017 is created. Based on this and following the existing literature, two main measures aiming to find evidence in favor of the equity market timing hypothesis are applied: pre- and post-announcement abnormal return (AR). As evidence exists that some firms are more likely to repurchase shares as a reaction to a perceived undervaluation (e.g. Lakonishok & Vermaelen, 1990; Ikenberry et al., 1995, 2000; Peyer & Vermaelen, 2009), dependencies of long-term ARs on firm (book-to-market ratio (B/M), size and pre-announcement AR) and buyback (completion rate) characteristics are examined as well.

Pre-announcement abnormal performance is measured using a standard event-study methodology combined with a market model to estimate expected returns. Following Andriosopoulos and Lasfer (2015), the estimation period covers the trading days -255 to -21 prior to the announcement. Subsequently, the event-window encompasses trading days -20 to -3. To control for potential biases due to thin trading in the stocks, the estimation procedure of Scholes and Williams (1977) is applied additionally. Long-term ARs are evaluated using the return across time and securities (RATS) methodology introduced by Ibbotson (1975), as well as the calendar-time portfolio approach suggested by Fama and French (1993). To model the expected returns, a market model with the contemporaneous and the one-month lagged market return as explanatory variables (as used by Ibbotson (1975)) is employed. To detect relationships between firm and buyback characteristics and long-term abnormal performance, the country samples are divided into terciles based on their B/Ms, market values (as a size proxy), pre-announcement ARs and completion rates. The robustness of these results with regard to model misspecification and survivorship bias is tested by re-estimating ARs against a four-factor model and a customized benchmark index, respectively.

## Results

The study reveals the existence of a significant negative average abnormal performance prior to repurchase announcements in Germany and Switzerland. These effects are even more pronounced when considering open market and Swiss second-line repurchases only and are not materially affected by thin trading.

Moreover, post-announcement ARs suggest a market under-reaction to buyback announcements in both countries. However, this effect is larger in the German sample, which on average experiences a significant abnormal performance in almost all examined event-windows and calendar-time portfolios following the repurchase announcement. With regard to the relationship between abnormal post-announcement performance and firm and buyback characteristics, larger ARs for repurchases announced by small firms with high B/Ms is found. This effect also appears to be more accentuated in Germany. No distinct pattern between pre- and post-announcement performance is found in the sample. Whereas German repurchase announcements do not seem to be an immediate reaction to abnormal negative performance in the preceding days, there is some evidence that Swiss firms announce buybacks as a reaction to negative stock price performance. Finally, abnormal performance is higher for repurchases that are completed to a higher extent and seems to set in only after the end of the repurchase. The results for the German sample can be confirmed when using a four-factor model and a customized benchmark index to test the robustness. In contrast, the weak evidence of abnormal post-announcement performance in the Swiss sample is not robust against additional risk factors. For

Swiss repurchases, robust significant abnormal performance is found only after 48 months. Moreover, the Swiss sample only reveals a weak inverse relationship between firm size and ARs.

### Conclusion

While the results of pre-announcement performance indicate some timing ability of managers in both countries, long-term ARs confirm market timing ability only for the German sample. Therein, especially German small and value stocks seem to repurchase because they are undervalued. Contrarily, the weak evidence of ARs following Swiss repurchase announcements only suggests limited equity market timing for small companies. On average, Swiss buybacks seem neither to be announced when firms are undervalued, nor to be motivated by a perceived undervaluation.