Equity and Fixed Income Homework Project

Topic: P/E-based Market Timing Strategy on DAX Index

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The goal of this project was to test the market timing strategy described in *Asness, C., Ilmanen, A., & Maloney, T. (2017). Market timing: Sin a little resolving the valuation timing puzzle. Journal of Investment Management, 15(3), 23-40* on a chosen.

The German equity market was the market of choice with sufficient data available. The analysis was produced using the cyclically-adjusted P/E ratio (CAPE) for Germany created by Barclays Research and DAX index prices on Yahoo Finance. The reason for the divergence in data sources was the lack of index price data in the Barclays Research dataset, unlike the completeness of US data produced by Robert Shiller. Yahoo Finance contained one of the longest uninterrupted DAX time series which was deemed an acceptable alternative and likely to overlap with the German equity selection used in CAPE. CAPE data extended from Jan-82 to May-23 and DAX data was from Jan-88 to Apr-23, thus the time frame considered spanned across the common Jan-88 to Apr-23 period. This is several decades shorter than the US data provided by Shiller, but still worthy of analysis – long-term returns were reduced from 10 years in the paper to 5 years and the rolling window of CAPE quintiles from up to 60 years to up to 20 years, still representing roughly half of the overall time period.

Initially, US results in the paper were reproduced.

US – replicated paper findings using Shiller’s CAPE and equity price data

Germany – replicated CAPE vs returns distribution

Market timing strategy setup

The DAX is a stock market index consisting of 40 large German companies listed on the Frankfurt Stock Exchange.

Results