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What Drives Gross Flows in Equity and Investment Fund Shares in Luxembourg?

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The paper analyses gross investment flows in equity and investment fund shares (EIFS) in Luxembourg - a small open economy with a financial center - over the period 2002Q1-2016Q3. Gross flows cover gross inflows and gross outflows. Gross inflows are defined as the net purchases of domestic assets by foreign (*i.e.* non-resident) investors (IMF (2009)). If a majority of non-resident investors buy (sell) domestic assets, then gross inflows are positive (negative). Gross outflows are defined as the net purchases of foreign assets by domestic (*i.e.* resident) investors (IMF (2009)). If a majority of resident investors buy (sell) foreign assets, then gross outflows are positive (negative).

The paper carries out three analyses. A statistical analysis describes the statistical properties of gross EIFS flows. A graphical analysis identifies the main events and the potential drivers of gross EIFS flows. The econometric analysis tests the observations highlighted in the graphical analysis and undertakes a forecasting exercise of extreme movements in gross EIFS flows.

The paper highlights several results. The statistical analysis shows that gross EIFS flows exhibit similar patterns over time amongst resident investors and non-resident investors. However, the volatility of EIFS flows instigated by non-resident investors is larger than the volatility of EIFS flows initiated by resident investors. Moreover, gross EIFS flows correlate positively with stock price indices and negatively with risk/economic policy uncertainty measures related to advanced economies and emerging market economies. This suggests that stock prices and risk/economic policy uncertainty measures can be respectively conceived as an indicator of investors' expected return on equity investment and as a gauge for global risk aversion. This provides also evidence that the evolution of gross EIFS flows in Luxembourg may be potentially explained by a set of global factors rather than domestic factors.

The graphical analysis shows that gross EIFS flows switch between positive and negative growth cycle periods whose durations vary over time depending on shocks affecting the return/risk ratio associated to EIFS. Second, as EIFS flows initiated by non-resident investors are more volatile than EIFS flows instigated by resident investors, extreme movements in EIFS flows occur more frequently on the side of non-resident investors than on

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the side of resident investors. Third, given that gross EIFS flows correlate positively with stock prices and negatively with global risk aversion measures (such as the implied volatility index VIX), sudden and sharp increases (decreases) in gross EIFS flows likely occur during bullish (bearish) periods in equity markets, when investors' risk aversion is low (high). Fourth, extreme movements in gross EIFS flows can concur with one specific event (or shock) or with a set of events. The nature of events is multifaceted, covering economic, monetary, fiscal, financial, regulatory and geopolitical shocks. Moreover, the geographical provenance of events is worldwide so that gross EIFS flows are likely affected by global shocks, either stemming from advanced economies and/or emerging market economies.

The econometric analysis supports these results as it provides evidence of a significant relationship between EIFS flows, global stock prices, global risk aversion, global economic policy uncertainty measures and fundamentals that may have played an important role in shaping the evolution of EIFS flows over the period of analysis (in particular, global liquidity, global government spending, global interest rates and oil prices). A similar result prevails for extreme gross EIFS flows although relatively less compelling and more dependent upon the nature of extreme flows (*i.e.* whether a sudden and sharp increase/decrease in gross EIFS flows initiated by resident/non-resident investors). Eventually, a prediction exercise suggests that it is difficult to forecast extreme movements in gross EIFS flows, based on global macroeconomic and financial variables.

Le contenu de cette étude ne doit pas être perçu comme étant représentatif des opinions de la Banque centrale du Luxembourg ou de l'Eurosystème. Les opinions exprimées reflètent celles des auteurs et non pas nécessairement la position de la Banque centrale, de ses dirigeants ou de l'Eurosystème.

The working paper is available here: www.bcl.lu

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