Exchange-traded funds (ETFs) are investment companies whose objective is to passively replicate the performance of an index, similarly to index mutual funds. Unlike index funds, ETFs are listed on exchanges and can be traded throughout the day.

The assets under management (AUM) in ETFs have grown exponentially, starting from around zero in the early 2000's, they have reached \$5.6 trillion globally, of which about \$3.6 trillion in the U.S. only. In Switzerland, ETFs manage CHF122 billion, somewhat more than 10% of the overall fund market.

After four years of record-breaking growth, the year 2018 is characterized by a slow-down in the growth of ETF's AUM. The concerns about an over-valued equity market and the turnaround in bond markets are certainly playing a role.

A natural question at this point is whether we will soon reach the end of the growth of the passive management industry, which has been spearheaded by ETFs. Passive investing makes a lot of sense when financial markets are booming. During good times, active funds are as likely to outperform the market as they are to underperform. Investors, therefore, are better off tracking the index and paying management fees as low as a few basis points, or even zero in the case of some Fidelity funds in the U.S. On the other hand, if markets decline, an active approach to investing allows a more defensive stance. Moreover, active managers are better poised to separate the wheat from the chaff, e.g. identifying solid companies that pay good yields even in a downturn. Hence, my view is that the breakneck growth in ETFs will face a severe challenge as soon as the market will change direction.

A moment of pause in this trend is probably welcome. There are some worrisome gray areas in passive investing on which regulators and researchers need to shed more light. First, we do not know enough about the liquidity of ETFs in periods of market stress, especially for those ETFs tracking less liquid asset classes, such as emerging market equity and corporate bonds. Investors in these products currently enjoy great ease of trading (i.e. liquidity) in the secondary market, which by far surpasses the ability to trade directly in the underlying assets. There is a perception that ETFs generate liquidity almost magically. We need to realize, however, that the liquidity of ETFs in the secondary market (i.e. the market for ETF shares) ultimately relies on the well functioning of the primary market, which involves transaction in the underlying assets. For example, ETF that track credit market ultimately need to rely on the ability of ETF-market makers to buy and sell corporate bonds. If investors in the secondary market put a lot of pressure on ETFs, e.g. during a market rout, it is uncertain whether they will always find the liquidity that they are accustomed to. Investors may be forced to accept significant discounts relative to the quoted value of the ETF underlying assets. This situation has not been fully tested yet.

The second reason to pause has to do with the impact of passive investing on corporate governance. Passive funds are mostly disengaged from the companies they hold in their portfolios. In over 90% of the cases, the biggest passive managers have backed the management proposals at shareholder meetings. This behavior is in line with their mandate, which consists of a mere replication of an index, irrespective of the performance of its components. Additionally, these management companies are not devoid of conflicts of interests. The asset managers often receive business in the form of pension mandates from the companies they own. Also, it is unlikely that asset managers express a negative view on excessive compensation, given the range of salaries in the finance industry. It is, however, a source of concern for the health of the capitalistic system that an increasing share of the listed companies is left without stewardship from its shareholders.

to focus more on the market risks that lie beneath these investment vehicles as well as on the challenges to a well-functioning market economy arising from the lack of shareholder monitoring.

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