shock experts, who cannot sell risky assets to households, become constrained and risk premia rise sharply and experts' leverage has to rise. He and Krishnamurthy (2010a) calibrate a variant of their model and show that equity injection is a superior policy compared to interest rate cuts or asset purchasing programs by the central bank. Similarly, in Xiong (2001) expert arbitrageurs stabilize asset prices in normal times, but exacerbate price movements when their net worth is impaired.

Paradoxically, in BruSan 2010 a reduction in exogenous cash flow risk σ can make the economy less stable, a *volatility paradox*. That is, it can increase the maximum volatility of experts' net worth. The reason is that a decline in cash flow volatility encourages experts to increase their leverage by reducing their net worth buffer. Similarly, new financial products that allow experts to better share risk, and hedge idiosyncratic risks can embolden experts to live with smaller net worth buffers and higher leverage, increasing systemic risk. Ironically, tools intended for more efficient risk management can lead to amplification of systemic risks, making the system less stable.

Finally, BruSan10 explicitly introduces a *financial intermediary* sector in the continuous-time model, analogous to the one-period setting of Holmström and Tirole (1997) which this survey discusses in Section 5. Experts can be divided into entrepreneurs and intermediaries whose net worths are perfect substitutes under certain assumptions. In this extended setting maturity transformation – or better said "liquidity transformation" – is partially conducted by the intermediary sector and the credit channel can be divided in a lending channel and a firm balance sheet channel. This distinction is one of the foci of Section 5.

Financial frictions are also prevalent in the international macro literature that focuses on emerging countries. Mendoza (2010) study a small open economy with fixed interest rate and price for foreign input goods. The domestic representative agent is collateral constrained and has to finance a fraction of wages and foreign inputs in advance – a feature it shares with time-to build models. Unlike in many other papers, in Mendoza (2010) the emerging economy is only occasionally at its constraint. A numerical solution for whole dynamical system is calibrated to 30 "sudden stops" emerging countries faces the last decades. Schneider and Tornell (2004) distinguishes between tradeable and non-tradable sector and emphasizes the role of implicit bailout guarantees.