Book of Abstracts

1. Daniel ANDREI (UniL and SFI) and Michael HASLER (EPFL and SFI)
Volatility Clustering with Sentiment Risk

We consider a standard Lucas economy with infinite horizon, a single consumption/dividend tree and two agents, A and B. The dividend and its expected growth rate follow the diffusion processes:

$$d\delta_t/\delta_t = f_t dt + \sigma_\delta dW_t^\delta \quad (1)$$

$$df_t = \lambda_B\left(\bar{f} - f_t\right)dt + \sigma_f dW_t^f \quad (2)$$

The drift of the dividend stream, f_t, is unobservable. Agent B infers f_t by assuming that it follows an Ornstein-Uhlenbeck process, as in (2). That is, agent B is perfectly rational. Agent A simply assumes that f_t is constant and equal to $\bar{f}$. Since agent A does not perform any updating, there will be difference of beliefs ($\hat{g} = f_t - \bar{f}$) between the two agents. In the spirit of Dumas, Kurshev and Uppal (2009), there will be sentiment risk, arising from the difference of the models and not from any signal.

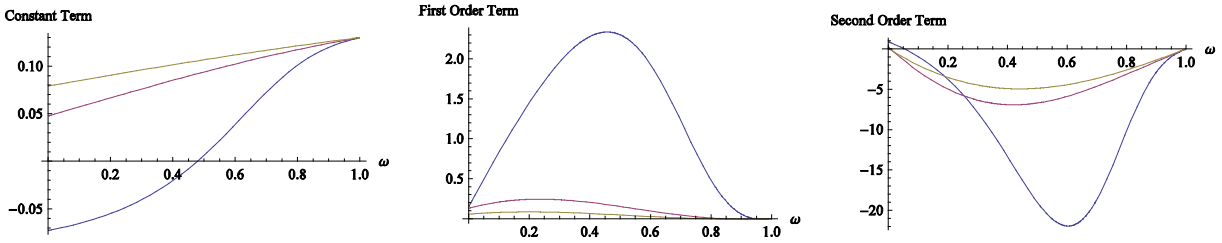
We keep the setup as simple as possible in order to understand the results that follow. However, a generalized version of the model is as well performed, with similar effects.

Since the state space is not standard affine in the first place, we apply the theory from Cheng and Scaillet (2003) to obtain an augmented affine setup. In such an economy, we solve for the equilibrium asset prices in closed form, as well as for the risk-free rate and the market price of risk. Portfolio choices of agents are shown explicitly.

Our main point of interest is the dynamics of the volatility of the stock return. Once we obtain it in closed form (up to a numerical integration) we perform a second order Taylor expansion with respect to the difference of beliefs. That is, we want to seize the impact of the difference of beliefs on the stock return volatility:

$$Vol = C_0 + C_1\hat{g}_t + C_2\hat{g}_t^2$$

The terms C_0, C_1 and C_2 are shown in the graph below, as a function of the consumption weight of agent A in the economy, ω. In each graph there are three lines. The blue line corresponds to λ=0.1, and the other two lines correspond to the cases 0.15 and 0.2 respectively.



The most relevant impact comes from the first order term (C_1). The second order term is almost insignificant, since it multiplies the square of the difference of beliefs, which is of the order of 10^{-4}. If the growth rate process is persistent enough, the volatility will depend heavily on the difference of beliefs, which translates into a GARCH-type process. If not, the volatility clustering property disappears. We conclude that high persistence of the difference of beliefs is a necessary ingredient to obtain GARCH effects.

To confirm the theoretical results, the model is simulated and then a GARCH fit is performed. We find highly significant GARCH parameters, in line with empirical estimates.

2. Daniel ANDREI (SFI and UniL): Information, Relative Wealth Concerns, and International Portfolio Choice

The objective of this work is to show in an international setup how a plausible social interaction between investors, namely the relative wealth concerns, might amplify an almost insignificant informational advantage and produce sizable home bias. Differently from existing literature, the initial informational advantage is that in each country more investors have private information about domestic assets than for foreign assets, while the precision of the information remains the same. Thus, *it is more a quantitative than a qualitative informational advantage*. This informational advantage is so small, that in an Admati[1985] type model with private information it will produce an almost insignificant local bias towards domestic assets.

However, when informed investors exhibit "keeping up with the Joneses" (KUJ) preferences, the initially insignificant effect of the informational advantage is greatly amplified and investors tilt massively their portfolios towards local assets. The effect is stronger when the consumption externality is more pronounced relative to home agents. That is, investors care more about the wealth of home agents than about the wealth of foreign agents. This arises because the investors tend to imitate the others and therefore if in their country there are more investors informed about the domestic asset, all of them will increase their holding in that asset. Additionally, they will tend to imitate more the home investors if they care more about their average wealth than about the average wealth of the foreign investors.

The setup assumes the following. There is a continuum of investors, situated in two equal-sized countries. In each country there is a risky asset. Some of the investors have private information about one or several assets. There is a noisy supply of the two risky assets, preventing uninformed investor to fully understand the private information of the informed investors. All the investors are free to trade in international financial markets.

As previously stated, it is assumed that in each country more investors have private information about domestic assets than for foreign assets, while the precision of the information remains the same. This hypothesis is more appealing than the one concerning the precision of the private information, for two main reasons. **First,** because under the standard model without

wealth concerns this will produce a minimal effect on portfolio holdings. That is, the Admati[1985] type model with private information *is silent about the location of the informed agents.* However, the relative wealth concern effect will take into account the location of informed investors. And if more investors are informed about the domestic asset, this will translate into a tilt of the portfolio towards that domestic asset. **Second,** it is an obvious result that if investors have more precise information about the domestic assets, they will be more home biased. For this purely mathematical result see Gehrig[1993]. It is not the aim of this work to reiterate this straightforward result, since it should be a lot more challenging to obtain home bias when investors have the same precision of their private information.
An additional contribution is that the model is solved in closed form and have a very intuitive solution. All the parameters can be interpreted easily and have a powerful economic significance. The home bias is analyzed not only at country level, but as well at investor's level. It will be shown that there is a cross-sectional variation within countries of the level of home bias.

3. Marc ARNOLD (UZH and SFI): Managerial Discretion and Optimal Cash Policy

This article investigates the impact of managerial discretion over cash holdings on the cash policy of firms in a dynamic model. Managers tend to hoard excess cash and eventually use it to finance debt payments. This behavior allows them to prolong their fixed income and utility obtained from controlling the firm when equityholders are unwilling to inject funds. Management is, therefore, not as concerned about the drawbacks of hording excess cash as shareholders. The agency costs arising from management's choice of cash policy can be large. Shareholders, however, anticipate managers' “deep pockets" and optimally respond to cash holdings. Besides explaining empirically observed cash levels across firms, the paper also speaks to the impact of corporate control and governance on the cash policy and on the associated agency costs.

4. Asyl BAKANOVA, USI and SFI: The information content of implied volatility in the crude oil market

Both market participants and financial academics have long been interested in estimating and predicting future volatility. Recently, there has been a growing interest in extracting volatility from prices of options. This is because option prices are highly related to market expectations about the future volatility of the underlying asset over the remaining life of the option.
The hypothesis that implied volatility is a rational forecast of subsequently realized volatility has been frequently tested in the literature. Empirical research across countries and markets so far has failed to provide a definitive answer as the prior studies provide mixed evidence.
In this paper, we test whether the implied volatility is a better predictor of future realized volatility and whether it reveals incremental information beyond that contained in historical returns in the crude oil market. To do this, we first construct an implied volatility index of light, sweet crude oil futures traded at New York Mercantile Exchange (NYMEX) directly from market observables, such as the market prices of options and interest rates, independent of any pricing model. Then we estimate realized volatility using the range-based – or extreme value – estimators proposed separately by Garman and Klass (1980), Parkinson (1980), Rogers and Satchell (1991), and Yang and Zhang (2000).
Since one of the characteristics of prices in the oil markets is volatility, which is both relatively high and variable over time, this market is a very promising area for testing volatility models. We use data from NYMEX, where the options on futures and underlying futures contracts trade on the same floor and their prices are observed simultaneously which reduces the measurement errors. We also use the model-free methodology that does not depend upon any particular parametric assumptions and thus helps to avoid measurement errors resulting from model misspecification. To our knowledge, this is the first study to thoroughly analyze the model-free implied volatility in the crude oil market.
We find strong indications that the implied volatility obtained from option prices, though slightly biased, indeed contains important information for predicting realized volatility at a monthly frequency. We also find that implied volatility outperforms historical volatility as a predictor of future realized volatility and subsumes all information contained in historical data. The performance of option price based predictions of future volatility is substantially improved by applying the instrumental variable approach to correct for error in the predicted volatility variable. Finally, we provide evidence that there was a regime shift after terrorist attacks of September 11, 2001, with implied volatility being a better predictor during more volatile subperiod.

5. Vera BARANOUSKAYA, USI and SFI : Menu costs in international trade: a dynamic story

In this paper I investigate the problem of the exporter who faces exchange rate appreciation and, consequently, decrease in profits since its export prices are denominated in the currency of the country of destination. The exporter has an opportunity (or, rather, an infinite number of opportunities) to renegotiate export prices paying some `menu costs' each time. I solve the problem employing the real options approach for both infinite and finite horizon. I demonstrate how even small menu costs may contribute to export price stickiness. I provide the closed-form expressions for price adjustment thresholds and explicitly compute the option value of performing a finite number of export price adjustments for the infinite horizon problem. For the finite horizon problem, I use the binomial tree method to approximately estimate option values and derive options' exercise boundaries.
This paper's contribution is twofold. First, it provides a simple yet powerful partial equilibrium model of international trade in the presence of the menu costs; it demonstrates that even relatively small menu costs may cause export price stickiness. The paper also provides closed-form solutions for the export price adjustment thresholds and option values. Second, this paper contributes to the literature on real options developing a model of sequential options for both infinite and finite horizon.

6. Chris BARDGETT and Elise GOURIER (UZH and SFI), with Markus Leippold (SFI Zürich, UZH). Simultaneous pricing of S&P500 and VIX options in a multi-factor framework

The aim of this paper is to develop a consistent framework to price options on the S&P500 index and on the VIX simultaneously. We present a model based on Matrix Affine Jump-Diffusions and show that it presents sufficient flexibility to accommodate for the stylized effects observed on the market. In particular, it accurately represents the cross-sectional patterns of implied volatilities of the S&P500 and VIX options. Analytical tractability is ensured by the affine dependence of the VIX squared on the instantaneous variance, which allows us to derive closed-form expressions for the prices of options. Finally, we calibrate the model to market data and discuss its performance.

7. Julien CUJEAN (EPFL, SFI): Equilibrium Asset Prices with Bid-Ask Spreads

I build a continuous time general equilibrium model in the presence of transaction costs. The economy is populated by two groups of agents. The first group of agents consists of an infinity of identical traders subject to transaction costs in the form of a bid-ask spread. These transaction costs are paid as a brokerage income to the infinity of identical brokers of the second group. Brokers are assumed to act competitively and, thus, do not take their brokerage income into account when determining their optimal inventory. Traders and brokers are assumed to be equally risk-averse. Heterogeneous beliefs are introduced to stimulate trading. The determination of a no-trading zone, which typically arises in optimal portfolio choice problems with transaction costs, becomes significantly complicated within a general equilibrium setting. In particular, the distribution of wealth among traders and brokers impacts the boundaries of the no-trading zone. I address this issue by resorting to a duality approach. The presence of brokers gives rise to a rational asset pricing bubble. This bubble is shown to be the difference in the cost of replicating traders' consumption plan by both groups of agents. A numerical procedure is designed to solve the equilibrium. Numerical results are work in progress.

8. Giuliano CURATOLA (EPFL, SFI): A Continuous Time Equilibrium Model with Loss Aversion in Consumption

This paper analyzes a continuous time version of the Lucas pure-exchange economy populated with heterogenous loss-averse agents. Agents have power gain-loss utility function over consumption relative to a constant reference (subsistence) level and they differ with respect to their subsistence levels. I find analytical solutions for the equilibrium market price of risk and the risk free rate. I show numerically that this model can help explain the equity premium puzzle and the dynamics of market volatility well documented in the empirical literature. I also demonstrate how loss-aversion gives rise to EGARCH-like returns. In addition, I also illustrate that heterogeneity in the reference level is necessary for the existence of equilibrium, which may not attain in an economy with all agents having the same reference level.

9. Hakim DALL'O (USI, SFI), with Nicola Carcano
ALTERNATIVE MODELS FOR HEDGING YIELD CURVE RISK: AND THE WINNER IS…

We develop alternative models for hedging yield curve risk and test them by hedging US Treasury bond portfolios through note/bond futures. We show that traditional implementations of these models lead to high exposure to model errors and to sizable transaction costs, thus lowering the hedging quality and making a ranking of the models difficult. We show that accounting for the variance of the model errors displayed by each rate substantially reduces both hedging errors and transaction costs. Also, this allows to clearly rank the models: error-adjusted principal component analysis systematically and significantly outperforms alternative models. Finally, we show that note/bond futures can successfully be used to hedge a bond portfolio: error-adjusted models applied to futures remove circa 90% of unexpected return volatility.

10a. Marina DRUZ (USI, SFI) (with Richard Zeckhauser): What do managers say between the lines?

We investigate whether markets' reaction to the words and tone the managers use to announce quarterly results is a noise or "informed" trading (managers do make leak the important information by choosing certain kinds of words). We apply textual analysis techniques to conference calls transcripts to examine how past results influence the choice of words. We find that managers' negativity and certainty are influenced more by earnings surprise, then by the change in earnings over the past quarter or capital gain. We show that negativity of managers' words unexplained by past results might serve to predict future earnings of the company. We examine differences in prepared and improvised parts of managers speeches as they might signal uncertainty, fraud or insincerity. We observe that the differences increase when managers have to present poor results. However, we were not able to find predictive power in these differences. We also find that managers tend to switch the conversation from present to past responding analysts' questions when questions are more hostile. Finally, we use the natural experiment of recent turmoil to study how the managers' speeches change before the bankruptcy.

10b. Marina DRUZ (USI, SFI): Signaling and sell-side analysts

This paper investigates the benefits managers can get from timely and active coverage by sell-side analysts. I find that better covered companies are less constrained by signaling problems. Selling insiders' shares or issuing new equity is deemed by the market as bad signals, and it is in the interest of managers to diminish the negative impact this actions might have on shares' value. My results show that companies with timely and intensive analyst coverage experience lower market reaction in response to insider sales. Constrained by limited resources investors are eager to avoid news analysis, when they are sure that financial analysts cope well with this work for them. Comparing to investors analysts are less prone to react to ambiguous signals, they have access to first-hand information and rely more on their research. Thus, active and timely analyst coverage cushions the negative signals effect. Managers, as if they were aware of this fact, are more likely to make a step judged by theoreticians as a "negative signal" when their company has better analysts' coverage.

11. Michal Dzielinski, UZH: Measuring economic uncertainty and its impact on the stock market

In this paper I propose a new measure of economic uncertainty, based on the frequency of searches for the word "economy" as reported by Google Trends. This choice is motivated by the presently huge role of internet for information gathering and the representativeness given by the almost incumbent position of Google. The underlying assumption is that more uncertain investors seek information more intensively. I perform three validations of this assumption with favourable results. Firstly, the dynamics of the Search Volume Index (SVI) for "economy" shows reasonable relationship to actual economic developments as it rises sharply following the outbreak of the subprime crisis and peaks shortly after the fall of Lehman Brothers. Secondly, the SVI is related in an intuitively expected way to more established measures of uncertainty. Finally, a vector autoregression shows the SVI to be an exogenous indicator, not driven by lagged values of market return nor the VIX. The usefulness of the proposed uncertainty measure lies in the fact that it performs better or comparably well at predicting stock market returns as other measures suggested in the literature, while being available with much higher frequency, which opens the possibility of a more timely market analysis.

12. Roger FAUST, UniSG: Corporate Risk, Diversification, and Shareholder Value

In a contingent claims approach, equity is expressed as a call option on the assets of a company with debt being the strike. We use a down-and-out call option framework to estimate the volatility and drift of companies' assets and the barrier based on empirical data from companies domiciled in the US. The firm's actual value compared to the sum of stand-alone values of its business segments is used as measure for excess value. The estimated parameters from the first-step estimations are then used in a second-step as regressors on excess value. By means of this two-step regression framework we examine the relationship between volatility and excess value, i.e. volatility and shareholder value.

13. Roman Frey (UniSG): Pricing CO_2 Future Options – An Empirical Analysis

This paper provides an empirical analysis on the pricing of CO_2 future options. We compare the empirical in- and out-of-sample performance of stochastic volatility models in pricing vanilla options on carbon emission future contracts within the second trading period from 2008 to 2012. Analyzing CO_2 future prices and returns we found that Gaussian and constant volatility assumptions of Black's model, which is used as a benchmark, are violated. CO_2 future log returns exhibit stylized facts as a leverage effect, volatility clustering, skewness and excess kurtosis.

The goal of this paper is to find a model that prices CO_2 future options correctly. The search for suitable option pricing models for a new type of underlying has largely been driven by finding the correct distributional assumptions. By evaluating density forecasts of different stochastic processes we found that stochastic volatility models correctly capture stylized facts in data and thus fit the distributional properties of CO_2 future prices. We therefore develop and implement an empirically valid stochastic volatility framework and calibrate it to observed CO_2 future and option data. Afterwards we evaluate the empirical pricing performance of a pure stochastic volatility model (SV) and a stochastic volatility model augmented by jumps in returns (SVJ) in- as well as out-of-sample. We found that both SV and SVJ models outperform Black's model in- and out-of-sample in terms of pricing performance. Eventually, based on two pricing error measures the SVJ is found to be most accurate.

Empirical results show that in-sample stochastic volatility alone reduces Black's pricing errors by 32% for call and 20% for put options. By adding a jump component we even reach an overall error reduction compared to Black's model by 55% and 37% for call and put options, respectively. Out-of-sample the reduction of Black's pricing error by SV and SVJ models is less distinctive. Yet, the overall in-sample model ranking of SVJ first and SV second remains unchanged, which brings us to suggest the SVJ model as an adequate model to price CO_2 future call and put options.

The main contribution of this paper is twofold. First, to the best of our knowledge, this is the first empirical analysis of richly parameterized option pricing models applied to the pricing of CO_2 options. By evaluating density forecasts we firstly incorporate the entire distribution of CO_2 future returns to test the fit of different stochastic models. The second contribution rests upon a considerably lager dataset. This is the first empirical CO_2 option pricing study based on data of the second compliance period, which features much higher liquidity than the trial period. Furthermore, we look at call and put options written on December 2008, 2009 and 2010 EU emission allowance futures. Therefore our dataset contains a larger number of data points than the few existing empirical studies, which allows for valid empirical conclusions.

14. Elise GOURIER, UZH & SFI: Lévy Libor Market Model: How to account for the Crisis?

In this paper we build a new model for Libor rates, which accounts for the stylized effects introduced by the financial crisis in the dynamics of rates with different tenor structures. Since liquidity and counterparty risks associated to Libor rates depend on the length of the borrowing/lending period, our model is based on a multi-curve approach and reflects the discrepancies which have appeared between rates that used to chase one and another. We define a specific dynamics for every Libor rate, depending on its tenor structure, and use Lévy processes as drivers to accommodate for jumps. We provide closed-form expressions in the general setup for the prices of basic interest-rate derivatives. Moreover, we investigate, for particular cases of Lévy processes, the role of the different parameters on the spread between forward and FRA rates. We finally calibrate the model to US market data and analyze its performance.

15. PETER H. GRUBER (USI), with CLAUDIO TEBALDI, and FABIO TROJANI

Three make a dynamic smile – unspanned skewness and interacting volatility components in option valuation

We propose a new modeling approach to option valuation, in which the volatility and skew- ness of returns are functions of three distinct, but dependent, stochastic components: Two components modeling short and long run volatility risk and a third component capturing shocks to return skewness that are unspanned by shocks to volatility. The model state dy- namics follows a matrix jump diffusion, provides efficient pricing formulae for plain vanilla options and nests a number of existing multi-factor affine models. We introduce dynamic interactions between the different components by relating the persistence and local variance of the volatility factors to the degree of return skewness, and vice versa. We estimate our model using S&P 500 index option data. We find that models with unspanned skewness components and dynamic interactions provide better pricing performance and a more ac-curate description of the joint dynamics of the implied volatility surface, both in-sample and out-of-sample. These findings support the use of option pricing models with (i) at least three distinct components driving the volatility and skewness of returns, (ii) skewness com- ponents that are not completely spanned by volatility shocks and (iii) interactions between the distinct component dynamics.

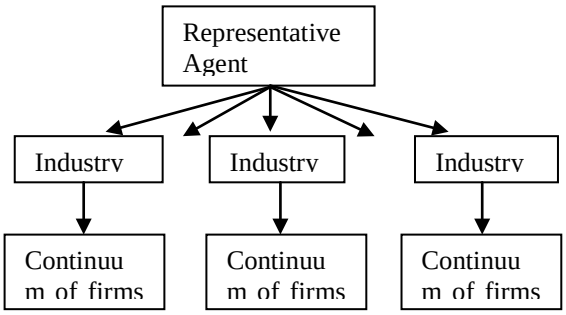
16. Mario HAEFELI and Matthias JÜTTNER (both UZH&SFI): The value of the liability insurance for UBS and CS

The setup of a rescue fund where banks have to pay premiums to bail out system critical institutions during crisis is currently discussed in many countries. In this paper, we are interested in the value of the implicit state guarantee for the liability side of UBS which became explicit in 2008 and of CS. This value is of course highly relevant for determining the level of insurance premiums of system-relevant banks.

In order to compute the value of the deposit insurance for UBS and CS, we use the options-based approach of Lucas and McDonald (2006) in a dynamic setup from 2004 until 2009. We provide a sensitivity analysis of the guarantee values with respect to the model parameters and various assumptions. The model implied default probabilities are compared to the ones perceived by the market via CDS spreads and are typically higher in our base case scenario.

17. Michael HASLER (EPFL and SFI): Asset Pricing and Credit Spreads in a Defaultable Lucas Framework

Model Scheme:



I consider an infinite horizon Lucas economy where K industries are populated by a continuum of firms which provide an exogenously specified stream of dividend. Dividends are assumed to depend on three Brownian shocks as well as three jump processes that determine the default arrival of the firm. There is one idiosyncratic Brownian shock, one country, industry or sector specific shock and one macro shock. The three jump processes are characterized in exactly the same way. The idiosyncratic shocks can be interpreted as follows: They could come from the way in which the firm is managed. In other words, these shocks could represent good or bad decisions taken from the board of directors or even simpler they could be attributed to the skills, knowledge and motivation employees have. The countries or industries specific shocks could be due to a regime switch, to political decisions or to a new monetary policy. Additionally, each industry strongly depends on the price of the main good it is dealing with. For example the luxury industry is driven by the price of gold, the metallurgy industry by the price of iron, steel, copper etc. The macroeconomic shocks could result from important economical events; there are periods of booms and crashes for instance, or from natural disasters such as earthquakes, hurricanes and dryness. Each firm living in sector k defaults with some given probability once an industry specific jump takes place. Similarly, once the macro Poisson process jumps, each firm populating the economy defaults with some other probability.

I solve in closed form for the risk free rate, the market and the jump prices of risk; prices and expected returns are given up to a numerical integral (Martin 2009). The risk neutral probabilities of default, the term structure of interest rates and the term structure of credit spreads are computed through simulations. I show that the introduction of default helps to solve the risk free rate and equity premium puzzles and that the ratio between the risk neutral and the objective probabilities of default decrease as the credit rating of the companies worsens. Moreover, the model shows that the term structures of credit spreads are decreasing and have reasonable levels. Finally, the calibration performed on CDS spreads exhibits the fact that the idiosyncratic and sectorial components of default increase as the credit merit deteriorates.

18. HOANG Ngoc Giang, EPFL&SFI

Proprietary information and the choice between auction and exclusive negotiation in mergers and acquisitions

This article examines the question why it happens fairly common in the market for corporate control that firms choose to sell their businesses via private and exclusive negotiations with a single buyer instead of running auctions to force all potential buyers compete for the best price. I contribute a new explanation to this literature by exploiting a key distinction between auction and exclusive negotiation in terms of information disclosure. In auctions, private information of the target is spread to multiple buyers, often involve competitors, during the due-diligence process. This may result in some negative impacts on future profits of the successful acquirer and ultimately lead to lower acquisition price. Anticipating this ex-ante, target and one of potential buyers may find it beneficial to enter an exclusive negotiation contract in order to keep proprietary information private post-acquisition. The impact of information disclosure on future profits depends critically on the nature of the information and the industrial structure of the market in which firms operate. Employing standard models in industrial organization literature, I show that exclusive negotiation may well emerge as equilibrium choices in many practical setups where targets have private information about both demand and cost and firms compete in either quantity (Cournot) or price (Bertrand) manner.

19. Benjamin JONEN (UZH&SFI) and Simon SCHEURING (UZH)

A Habit-Based Explanation of the Forward Premium Anomaly with Endogenous Consumption

This paper presents an infinite horizon dynamic stochastic general equilibrium model with endogenous consumption that reproduces the forward premium anomaly.

In a two-country setup, investors derive utility from consuming two types of goods: tradable goods for which purchasing power parity holds and purely domestic goods. Investors' preferences are characterized by internal habit formation such that previous consumption levels determine present habits.

Depending on their present habit levels agents' risk aversion changes, leading to a risk premium that varies over time and that is negatively correlated with movements in the exchange rate. The calibrated model is thus able to resolve the empirical anomaly

20. Alexander KOHLER, UniSG: Announcement Effects of Trust Preferred Securities

Trust preferred securities are hybrid financial instruments that bear bond-like and stock-like features. We analyze the announcement effect of the issuance of trust preferred securities for the stocks of the issuing bank in a classical event study framework. A sample of 114 trust preferred securities is analyzed with a Constant Mean Return Model and a Market Model, where significance of abnormal returns is tested with parametric and nonparametric tests. Significantly negative abnormal returns of the stocks of the issuing banks can be found for multiple intervals within the event window, suggesting that the announcement of the issuance of trust preferred securities has a negative impact on shareholders' wealth. These findings are supported by the analysis of different subsamples. Interestingly, the negative effect is only slightly stronger during the period of the financial crisis.

21. Jochen KRAUSE, UZH (with M. Haas and M. Paolella): Augmented Likelihood Estimators for Mixture Models

The maximum likelihood estimation of mixture models is well-knownto suffer from the degeneracy of mixture components usually caused by singularities in the surface of the likelihood function. We present a new solution to this problem based on an augmented maximum likelihood scheme dedicated to mixture models and derive diffrent estimators which avoid degeneracy. For some of them consistency is ensured. The methodology is general and can straightforwardly be applied to arbitrary mixture distributions as well as mixture models of higher complexity, e.g., mixture GARCH models. Simulation studies show that the new estimators perform well even for relatively small sample sizes.

22. Jan P. KULAK (EPFL&SFI) and Cornelius SCHMIDT (UNIL, SFI)
Complex Conglomerates and Predictable Returns

This paper finds evidence of return predictability for conglomerate firms. Predictability arises around earnings announcements following fiscal quarters in which the conglomerates' industry sectors diverged in performance, as judged by portfolios of industry-matched stand-alone firms. After out-performance of the conglomerate's primary industry relative to its secondary industries, the conglomerate earns positive excess returns at the announcement date. A long-short strategy based on the effect yields monthly alphas exceeding 90 basis points. The pattern found in returns is mirrored in biased analyst earnings forecasts. The findings contribute to the literature that argues that conglomerates are complex to understand and to price. Market participants, and analysts in particular, appear to exhibit a systematic bias to overweight news of small industry segments in forming their expectations for quarterly accounting results of conglomerate firms.

23. Thomas LEIVRIK, USI: Dynamic Asset Allocation with Bonds

In this paper we solve a dynamic portfolio choice problem where the investor allocates the wealth between risk-less and risky bonds. The investor has CRRA preferences and optimizes the expected utility from the terminal wealth. The interest rate underlying the bond price is modeled by the CIR process, proposed in an interest rate setting by Cox et al. (1985). We show that a standard approach utilized when the interest rate follows an Ornstein-Uhlenbeck process does not work in the case of a CIR-process. We introduce a new transformation in order to circumvent this problem. This transformation is necessary in order to reduce the dimensionality of the corresponding Hamilton-Jacobi-Bellmann equation and thus find a candidate for the solution of the value function and optimal trading policy. We find the value function and show that the corresponding equation describing the optimal trading strategy consists of two components. One is the usual mean-variance term and the other is a hedging component. We find that the allocation of risky asset to wealth is depending strongly on the difference between the interest rate achieved on the risk-less account and the stochastic interest rate. If this difference is low, then the investor might short sell the risky asset. On the other hand, if the difference is large, then the investor is short in the bank, i.e. it is optimal to borrow the risk-less asset in order to finance the risky investment.
In addition, there is market timing in the trading strategy, since the stochastic interest rate enters the terms of the trading strategy and thus affects the optimal allocation.

24. Roberto MARFÈ (UNIL and SFI): Time-Change Risks and the Aggregate Stock Market Behavior

The standard consumption-based asset pricing model fails to explain the aggregate stock market behavior. Also if a number of studies have provided some success in reproducing the stylized facts about asset returns, two linked drawbacks drive this success and make these models inconsistent with the fundamental sources of risk that drive markets: first, an almost perfect conditional correlation between aggregate consumption growth and stock returns; second, time varying counter-cyclical variations in risk aversion. The former is the relationship between the input and the output of the model, while the latter is the main source which links the two variables. For instance, in habit models a large component of stock return variation comes from changes in risk aversion, which is driven by consumption. Hence, stock returns and consumption are highly correlated, while this is not the case in the data. However, counter-cyclical risk aversion is not supported neither at the individual level nor at the aggregate level, and thus do not explain the dynamics of risk premia.
This paper proposes an alternative approach which circumvents these key inconsistencies without leaving the frictionless representative consumer model. Most of the literature has concentrated on the uncertainty associated with the supply-side of the economy: I claim that also the uncertainty on the demand-side should be accounted for. This paper investigates the effects of investor's sensitivity wrt the evolution of uncertainty and equilibrium implications about asset returns. As the productive environment changes, so does the optimal bundle of assets the individuals prefer: I think it is plausible to assume that, beyond the variation in relative prices, this mechanism also depends on a state-dependent appeal towards investing in each asset. Thus, a measure of investor's sensitivity wrt the evolution of uncertainty, which alters the perceived utility from consumption, is modelled. Therefore, equilibrium returns depend on a pricing kernel reflecting both the return on investments - a supply-side effect, as in the standard framework - and the change in the agent's sensitivity - a demand-side effect - which evolves in response on the arrival of news.
In order to model such investor's sensitivity, I need to describe the agent's responses to the evolution of an overall measure of uncertainty in the economy, akin a business cycle indicator. I suggest to use a time-scale deformation in spirit of Clark (1973) and Stock (1988): using the mathematical notion of time-changed stochastic processes, it is possible to model a stochastic map - the so-called time-change - which allows to filter out, for instance, heteroscedasticity, extreme moves and asymmetries. Literature does not explain the role of the time-change from a structural point of view: this paper tries an answer. All relevant information is embeded in a time-change – conditional to, the input of the economy reduces to a very white-noise - which allows to recognize the pace of the economic activity or the information flows. Then, such arrival of news, representing the evolution of uncertainty, produces a demand-side effect which drives the investor's sensitivity. This alters the perception of utility from consumption and drives the state of the economy. Because the agent wants to smooth the utility path, when uncertainty is low an incentive to invest arises and lowers the required compensation. At the opposite, when uncertainty is high the required return to postpone consumption is higher than in the steady state. Thus, countercyclical risk premia arise.
In a simple and standard framework without adding shocks, investor's sensitivity, as driven by the time-change of aggregate endowment, allows to explain - qualitatively and quantitatively - many stylized facts about asset returns in terms of both levels

and dynamics, like an high and counter-cyclical Sharpe ratio, for instance. In particular, focusing not on consumption per se - as in habit models - but on its underlying risks - as detected by a time-change - leads to an explanation of the aggregate stock market behavior which is consistent with the low correlation of returns with consumption growth and does not require the challenging assumption of time-varying risk aversion.
I find that the cay, likely the most powerful empirical state-variable in literature, significantly proxies the time-change of aggregate endowment and at the same time leads to a conditional behavior of asset returns that closely resembles the implied one by this time-changed asset pricing model.

25. Tamara NEFEDOVA, USI&SFI: Systematic optimism and pessimism in individual analysts' forecasts: Firm ownership structure and analysts' strategic behavior

This paper brings up together three parties: financial analysts, firms and their investors in order to shed additional light upon analysts' forecasting behavior. I use data on companies' institutional holdings and find that analysts provide more accurate annual earnings forecasts for firms with higher institutional investor ownership.
Furthermore, I find evidence suggestive of analysts' strategic "up-down" bias when giving their forecasts for firms with high institutional ownership. My results imply that analysts tactically issue optimistic forecasts in the beginning of a period with subsequently giving pessimistic last forecasts. Analysts who apply this strategy give more informative forecasts than their peers. I also discover that analysts working for larger brokers are more likely to act strategically.
Such a behavior might have several (non-mutually exclusive) explanations. Firstly, it may be the result of analysts' longing to please managers of the firm while issuing forecasts which can be easily met. By acting so they maintain good relationship with the firm's management and access to firm-specific information. Secondly, institutional investors are clients of analyst-employing firms and may exercise pressure on analysts to issue accurate forecasts. Investors may value higher slightly pessimistic over slightly optimistic forecasts. Analysts could in addition be concerned by the fact that institutions regularly rate them. The results are published in the Institutional Investor magazine annually. These ratings may have a direct impact on analysts' career and remuneration. Thirdly, institutions use brokerage services extensively, therefore analysts may have pressure from sales department of their firm and knowingly issue optimistic forecasts in the beginning of the forecasting period in order to generate juicy trading commissions. The first two explanations are in favor of the "-down" part of the "up-down" bias, the last adds up to the "up-" part of the picture.

26. Alper ODABASIOGLU, UZH&SFI: Informed trading, Margining and Amplification Mechanisms in Financial Crises

A noteworthy strand of literature focuses on financial positive price feedback mechanisms, especially those operate during crises. The short squeeze event for Volkswagen AG in October 2008, the quant hedge fund crisis in August 2007, the crisis following the Russian default in 1998 and the resulting bailout of Long Term Capital Management, as well as the crash of 1987 are common examples of such events to which this literature vastly refers. During such periods of financial turmoil, market liquidity is fragile and prices are driven severely by other forces rather than by movements in fundamentals; consequently if the situation persists, learning and information dissemination can clearly be inhibited.
The information-based approach in market microstructure literature has greatly enhanced our understanding of how information can significantly affect quotes and spreads; if some traders have superior information about the underlying value of an asset, their trades could reveal what this underlying value is and so affects the behavior of prices. On the contrary, how prices can in turn affect the behavior of traders has not been yet well explored. In actual asset markets however, developing technical trading strategies on price patterns are widespread. Moreover, sudden price changes and liquidity dry-ups, which are often observed within the mentioned models of positive price feedback mechanisms, are not exhibited by these information-based market microstructure models due to missing components and connections. Extending them in these directions proves to be necessary for the purpose of our paper.
Regarding the efficiency of markets, it is well documented that while speculating informed traders aim to arbitrage away pricing inefficiencies, possibly there exist limits to arbitrage and frictions against the information dissemination. One obstacle is the limited capital and funding, and a way for traders to loosen it is margining. However, the problem with margining is that it imposes margin requirements. In its simplest form, due to the margin requirements adverse price changes can trigger margin calls and result in forced trades. The implication of such forced trades within the context of our paper is two folds. First, focusing back to the mentioned open issue in the market microstructure literature, the existence of such basic and often occurring forced trade events urge the need of incorporating that, and point out a way how, prices in turn can affect the behavior of traders. Second, such forced trades are shown to become a main component of the mentioned positive price feedback mechanisms and under specific circumstances easily destabilizing the financial markets. On these grounds, in this study we will focus on margining related positive price feedback mechanisms.
Our study connects these two lines of literature, namely the information-based market microstructure and the financial positive price feedback mechanisms with the focus of margin trading, meanwhile complementing each side by well motivated and necessary features. Within such a framework we seek an answer to the question: Is informed trading, when margining is allowed, still beneficial for market efficiency, or conversely can it be destabilizing especially during turbulent times? Further, we examine how the standard outcomes of an information-based market microstructure model, such as the quote and price processes, the market liquidity and the bid-ask spread, learning and the market efficiency are affected with the added features. A further application is the investigation of influence of short sell bans.

27. Ilaria PIATTI, USI (with Fabio Trojani): The multivariate nature of interest rate co-volatility risk

Recent studies find it difficult to explain the joint dynamics of interest rates and fixed-income derivatives in the context of many standard affine term structure models. This paper develops and estimates a class of tractable no-arbitrage yield curve models able to price consistently bonds and interest rate derivatives, across different maturities and strikes, and to reproduce at the same time the stylized facts of yields and their volatilities. We specify our model using a three-factor diffusion for the short rate, in which factor correlations and volatilities are driven by a separate matrix diffusion process. In order to obtain tractable pricing expressions, we derive closed-form solutions for both the yield curve and the forward Laplace transform of bond returns. The

joint dependence of interest rate factors and their volatilities, together with an appropriate specification of the market price of volatility risk, can generate a good variety of cross-sectional implied volatility slopes and term structures of interest rate derivatives. At the same time, the multi-factor volatility structure of the model is helpful to better reconcile the joint dynamics of volatility risk and volatility risk premia at different horizons. Using about 5 years of weekly data of LIBOR, swap rates and cap implied volatilities, we apply the unscented Kalman filter to estimate different versions of our model, based on different volatility specifications, and study the multi-factor nature of interest rate volatility in connection with the implied price of volatility risk. Preliminary findings show that multifactor volatility specifications based on at least three co-volatility factors better reproduce the joint dynamics of interest rates, cap implied volatilities and the multivariate price of interest rate volatility.

28. Evgeny PLAKSEN, UZH&SFI: The Value of your Advisor's Advice: An M&A perspective

This paper addresses the role of financial advisors in firms' acquisition activities. The incentives of bankers are misaligned: they benefit from advising on larger and more numerous deals, whilst do not have strong incentives to turn down acquisitions that potentially destroy value. Our data shows there is a "fee generating" phenomenon in investment banking. We test whether better relations of investment bankers with company management established at the IPO can aggravate the fee generating phenomenon and lead to the destruction of value at acquisitions. We find that acquisitions following an IPO are worse and the odds of undertaking bad acquisitions are higher when advisors are misaligned.

29. Maria PUTINTSEVA, UZH&SFI: Mixture Dynamic Conditional Correlation Model

Prediction of the mean and covariance structure of a set of assets is the key aspect of portfolio optimization, hedging, risk management and derivative pricing. In his book "Anticipating Correlations" (2009) Robert Engle [2] details and expands upon his very intuitive and easily estimable multivariate dynamic conditional correlation model, which successfully extrapolates the ideas of GARCH-type univariate modeling to the study of the dynamics of correlation matrices. In working with this model, we found out that as the size of the sample decreases, the quality of the quasi-maximum likelihood estimator suggested by Engle worsens significantly, often being dominated by such a simple estimator as the empirical covariance matrix in the sense of optimal portfolio choice and forecasting the future outcome. The potential explanation for this observation is the fact that, in relatively small samples, discrepancies between actual and simplified quasi likelihood functions may not always be neglected. Therefore, we suggest replacing the assumption of multivariate normality by a finite mixture of multivariate normal distributions. As shown by several authors [3, 1], this kind of distributions is able to capture many important characteristics of the financial data, including long memory and fatter tails of the returns. The number of model parameters remains small in comparison with many other multivariate models used for the same purposes, and the combination of EM-algorithm and two-step likelihood maximization procedure allows to estimate the parameters reasonably fast. Out-of-sample testing of predictability shows that the new model outperforms Engle's dynamic conditional correlation model on both large and small samples. We conjecture, and will investigate in subsequent work, that this improvement will translate into better portfolio allocations.

30. Keywan RASEKHSCHAFFE, USI&SFI: Can cash-flow risk explain the value spread?

We study relative cash-flow risk of high book-to-market and low book-to-market stocks in different states of the world. Cash-flow betas have higher explanatory power than return betas unconditionally, and we find that conditioning information is crucial because a hedge portfolio that is long high book-to-market stocks and short low book-to-market stocks has a positive cash-flow beta when the price of risk is high and a negative cash-flow beta when the price of risk is low. Results corroborate earlier evidence that beta risk for the value premium is high when aggregate risk is high.

Our contribution is to examine the explanatory power of cash-flow betas in a conditional setting. Since most evidence points to a time-varying price of risk, the unconditional CAPM is prone to be rejected even if beta plays a significant role in determining asset prices. In fact we show that the cash-flow beta of the value spread not only is stronger during periods where the price of risk is high, it changes sign from negative to positive. Two main results emerge from our analysis: Cash-flow betas are more successful in explaining the value spread than return betas and conditioning information is crucial since the relative riskiness of high and low book-to-market portfolios changes through time.

31. Christian REICHLIN, ETHZ (with Thorsten Hens): Three Solutions to the Pricing Kernel Puzzle

The empirical pricing kernel puzzle is the observation that the pricing kernel might be increasing in some range of the market returns. The paper analyzes the pricing kernel in a financial market equilibrium. If markets are complete and investors are risk-averse and have common and true beliefs, the pricing kernel is a decreasing function of aggregate resources. If at least one of these assumptions is violated, the pricing kernel is not necessarily decreasing. Thus, incomplete markets, risk-seeking behaviour and incorrect beliefs can induce increasing parts in the pricing kernel and can be seen as potential explanations for the empirical pricing kernel puzzle. We construct examples to illustrate the three phenomena. We verify the robustness of the explanations under aggregation and compare the phenomena with the findings in the empirical literature. The results are used to deduce strengths and weaknesses of the three explanations.

32. Diego RONCHETTI, USI (with Patrick Gagliardini): Semi-Parametric Estimation of American Option Prices

We introduce a new semi-parametric estimator of the price of American options. The estimator is based on a parametric specification of the stochastic discount factor and is non-parametric w.r.t. the historical dynamics of the state variables. The estimation method exploits the no-arbitrage conditions for a set of risk-free bonds, the underlying asset and a cross-section of observed prices of American options written on it. We obtain an estimator of the transition density of the state variables process by minimizing a statistical measure based on the Kullback-Leibler divergence from a kernel-based transition density. We use the estimator to compute the price of American options not traded in the market by recursive valuation. Our approach is somehow close in spirit to stochastic mesh methods, with the historical realization of the state vector process taken as a mesh. The weights associated to the mesh are the non-parametric kernel weights adjusted by a tilting factor and multiplied by the stochastic discount factor. Other functionals of the transition density interesting for financial applications can be estimated by our approach. These functionals include physical and risk-neutral conditional cross-moments of the state variables, such as leverage effects.

33. Xunhua SU (UZH): A Re-examination of Credit Rationing in the Stiglitz and Weiss Model

To explain the widely observed phenomenon of credit rationing, Stiglitz and Weiss (1981) propose a theory of *random rationing* under imperfect information. With a simple model plausibly expanding the Stiglitz and Weiss setting, we argue that, random rationing occurs only in some extreme cases and hence is not likely to be a prevalent phenomenon. To reach this conclusion, we start by illustrating that the Stiglitz and Weiss model and hence random rationing are quite sensitive to the assumption of the ranking of projects. Given that the ranking is according to the Mean-preserving Spread as Stiglitz and Weiss assume, there is adverse selection but no moral hazard. In the absence of moral hazard, random rationing is almost impossible to occur. Then by presuming the coexistence of adverse selection and moral hazard, we derive two required conditions for the occurrence of random rationing. First, random rationing occurs only if collateral has an overall deadweight cost. As collateral is a widely observed debt feature in practice, such an overall deadweight cost should not be the case for the majority of borrowers. This also indicates a way to test the significance of random rationing by examining whether collateral is binding constraint for the rationed borrowers. Second, the occurrence of random rationing entails that the potential negative effects of the loan rate, collateral, loan size and any restrictive debt covenant simultaneously overweigh their positive effects *exactly* at the current contracting level. In this case, the zero-profit curve of the lender degenerates to a single point and borrowers face a take-it-or-leave-it offer. We conjecture that such a required condition leaves little space for the significance of random rationing.

34. Paolo TASCA (ETHZ, UZH, Ca' Foscari Univ. Venice) with Stefano Battiston
Financial Fragility: Acceleration and Contagion

We introduce a dynamic model for the evolution of financial institutions fragility which aims at conjugating the balance-sheet approach with a stochastic setting. Starting from the law of motion of the value of assets and liabilities, we derive a micro-founded stochastic framework where the two mechanisms of financial acceleration and contagion endogenously emerge. We investigate how the level of portfolio diversification affects the probability of failure when institutions are interlinked at the balance-sheet level via a set of claims and obligations. In contrast with the standard argument about diversification we find the existence of an optimal level of diversification beyond which, the failure probability increase.

35. Jesse Zexi WANG, UZH: Stock market liquidity and firm cash holding

Stock market liquidity and firm cash holdings are two very hot topics recently. This paper documents the significant positive correlation between stock market liquidity and firm cash holdings. As far as I know, this is the first paper to build a direct bridge between them. The paper then tries to explain this positive connection. According to the existing literature (Bates,Kahle and Stulz 2009JF) on cash holdings, higher earnings volatility leads to higher cash holdings. Meanwhile, higher earnings volatility can also lead to more trading to learn about the true value of the stock (Chordia, Huh, and Subrahmanyam 2007RFS). However, these stocks may not tend to be more liquid in price impact aspect. Even if the earning volatility, short-term stock return volatility, firm size, cash flows, leverage, stock beta, and book to market ratio are all controlled, the positive correlation is still significant.

Cash holding itself may work as a signal to investors. It is helpful to partly conquer the information asymmetry and improve the stock liquidity. Keep other things equal, high cash holdings mean that the firm is operating smoothly. It is ready for new investment opportunities and also the possibility of bankruptcy is relative low, at least in a short run. In a long run, firms with high cash holdings tend to be more dangerous because of the precautionary saving of firms (Acharya, Davydenko and Strebulaev 2008 working paper). But still investors seem to like them. It may work as a support that stock market investors tend to be myopic in trading. They can sell and buy easily in a short run and may not need to worry too much about the bankruptcy cost in the far future.

Cash and other short term liquid assets are the most liquid assets of the firm. In some sense it can work as a proxy of the liquidity level of the firm assets, especially when cash holdings are very high. If the cash holdings are too high, it would hurt the stock market liquidity, as shown in this paper. It supports the viewpoint of dark side of the asset liquidity proposed by Myers and Rajan (1998 QJE).

Appropriately high cash holdings can improve stock liquidity. It may imply that the appropriate asset liquidity and stock market liquidity are positively correlated. Recent research by Nyborg and Per (2010 working paper) shows that the stock market liquidity and funding liquidity (interbank) connect with each other. Combining my research in this paper, the 3 concepts with the same name 'liquidity' in finance — firm asset liquidity, stock market liquidity and funding liquidity, actually connect with each other.

CRSP stock daily data and CRSP-COMPUSTAT-Merged annual data are used from 1983 to 2008 for the empirical analysis in this paper.

36. Ramona WESTERMANN, UniGE&SFI, with Marc Arnold and Alex Wagner (UZH&SFI)
Macroeconomic Conditions, Growth Opportunities and the Cross-Section of Credit Risk

This paper develops a dynamic trade-off model of optimal capital structure that takes into account the fact that most firms have both invested assets and growth opportunities. These two sources of value react quite differently to business cycle risk. In particular, growth options are more sensitive to regime changes than invested assets. "Growth firms" are, therefore, endogenously more likely to default in recession, when doing so is expensive. This in turn raises their costs of debt. The model - exploiting merely the implications of the nature of assets, without the need to appeal to agency conflicts - quantitatively matches average stylized facts regarding credit spreads, leverage, default and investment clustering. Importantly, it also makes predictions about the cross-section of all these features.

37. Jan WRAMPELMEYER, UZH&SFI (with Fabio Trojani and Christian Wiehenkamp)
Robust Modeling and Estimation: A Unified Approach to Deal with Model Uncertainty

This paper investigates the relation between robust decision making and robust model estimation from a financial perspective, and studies the implications of this link for asset pricing, portfolio choice and option pricing. Taking as given the robust agent's concern for a model misspecification, the paper documents that robust econometric approaches provide a natural extension to the recent ambiguity aversion literature in finance, by explicitly incorporating an additional desire for robustness at the level of the estimation of model parameters. The results show that retaining a coherent framework using robust econometric methods is essential for drawing accurate quantitative conclusions concerning risk prices, option pricing errors, or optimal portfolios. First, in the robust consumption and portfolio planning problem, neglecting the robustness properties of parameter estimates requires the agent to consider a wider set of alternative models in robust decision making, which negatively affects his utility. Second, in an asset pricing equilibrium setting, uncertainty premiums are more reliably estimated using robust econometric methods. Third, estimated option pricing errors in an incomplete market setting are significantly smaller when controlling for the effect of ambiguity on the estimated model parameters using robust econometrics. Lastly, an empirical application of robust modeling and estimation in an economy with return predictability reveals that robust estimation leads to less variable portfolio weights and a higher out of sample realized utility.

38. Qunzi Zhang (UNIL&SFI): Multi-moment Asset Pricing and Allocation in a Heterogeneous Market Equilibrium

This paper proposes a new method for calculating return forecasts and equilibrium allocation. To do this, following Mitton and Vorkink (2007), we extend their one-period equilibrium in several ways. In our economy, we assume three types of investors whose preferences can be characterized by "MV", "MVS" and "MVSK". (M: Mean V: Variance S: Skewness K: Kurtosis) and they are named as ("Traditional", "Lotto" and "Kurtosis Aversion" investor), correspondingly. We show that the heterogeneous preference for skewness and aversion to (co-) kurtosis both affect the asset allocation and the equilibrium asset return. We also investigate how the change of investor fraction on the market influences the equilibrium properties. Under this market mechanism, to our knowledge, we are the first to investigate the (co-) kurtosis and investor fraction effects on equilibrium and apply this model to actual data. In particular, by using the weekly world stock market indices (MSCI) ranging from January 1988 till January 2010, we are able to recover the investor properties, such as investor preferences, investor fraction and the risk aversion level under bullish and bearish markets. We find that during booms, there are less Traditional investor, but more Lotto and Kurtosis Aversion investors existing on the market; and the average level of investors' risk aversion and investor fraction significantly affect the equilibrium properties.

External Students

39. Dario MORONI, UniGE: An economic perspective on banking and art collecting

Art collecting by individuals emerged in the 16th century, following the tradition of collecting natural history specimens. A collector may be motivated to acquire works of art for a variety of reasons: aesthetic preferences, investment, speculation, scholarly study, or even as a social outlet.

Art collecting by banks developed gradually at a later stage, initially with the same aims of individual collectors. Afterwards art collecting by banks has developed accordingly to the functions that financial companies were requested to accomplish in an evolving context of economic and social dynamics.

There are extrinsic and intrinsic linkages between banking and art collecting as well as implications regarding the dichotomy between financial and spiritual values of works of art. The purpose of this work is to create an economic and social model to approach the above mentioned dynamics. And to attempt to answer the question why banks are involved in art collecting.

The methodological approach of this work is based on dichotomy analysis. according to some wisdom that probably goes back to ancient Greek civilisation, knowledge is a sort of balance between opposite strengths and dynamics, a precarious state of equilibrium, as precarious as precious.

This work is basically organized in 3 parts. The first part is a survey on extrinsic and intrinsic linkages between banking, finance and art collecting. The second one is an exploration of issues concerning the commercial value of works of art and theirs potential spiritual value. The third part is dedicated to questioning of some of the dynamics analyzed in the first two parts.

Consequently this work has a fixed and closed structure, which is axed on the first two parts, as well as an open structure, which can be developed from part three. Besides, the entire work is structured as a summary, which offers food for thoughts and suggestions for further investigations.

The methodology of putting the accent on dichotomies, and consequently to individuate points of equilibrium could be used as a open structure method, or a work model for an endless number of issues regarding the question why banks are involved in art collecting as well for further questioning regarding the art market.

40. Marina STEINBACH, Berlin: Why do firms issue convertible debt?
Investigating the explanatory power of rationales for the convertible issuance decision

The question why firms issue convertible debt securities remains unresolved. Theoretical explanations rationalizing the convertible debt issuance decision of listed firms are abundant and mainly resort to two standard research approaches in corporate finance: asymmetric information and agency conicts. The objective of this working paper is to investigate the incremental explanatory power of rationales for the convertible debt issuance decision adopting an informational and behavioral perspective.