Journée « *Risques Financiers* »
Workshop on Financial Risks
Axe « Risques Financiers » du GdRE

Faculté de Droit d'Economie et de Gestion
Salle B103, Bâtiment B, 1er étage

Programme

Mercredi 23 janvier 2013 - January, 23rd, 2013
Salle des thèses – Bâtiment C – 2ème étage

10h00	*Accueil*
10h20 - 11h20	**Denisa BANULESCU** (Université d'Orléans - LEO and University of Maastricht), Bertrand CANDELON (University of Maastricht), Christophe HURLIN (Université d'Orléans - LEO), Sébastien LAURENT (University of Maastricht, Université Catholique de Louvain - CORE) *« Do We Need Intra-Daily data to Forecast Daily Volatility ? »*
11h20 -12h20	**Mohamed Rochdi KEFFALA** (IHEC Carthage – LEFA, SAF, ISFA School et Université Claude Bernard Lyon 1), Christian de PERETTI (SAF, ISFA School et Université Claude Bernard Lyon 1) *« The Effect of Derivate Instruments Use on Accounting Risk : Evidence from Banks in Emerging and Recently Developed Countries »*
12h20 - 14h20	*Déjeuner*
14h20 - 15h20	**Nicolas MARTELIN** (Luxembourg School of Finance, University of Luxembourg), Bart FRIJNS (Auckland University of Technology, New Zealand), Fabian IREK, Thorsten LEHNERT (Luxembourg School of Finance, University of Luxembourg) *« Noise Trading and the Cross-section of Index Option Prices »*
15h20 - 15h30	*Pause café*
15h30 - 16h30	**Thibaut DUPREY** (Paris School of Economics et Banque de France) *« Bank Ownership and Credit Cycle : The Lower Sensitivity of Public Bank Lending to the Business Cycle »*
16h30 - 17h30	**Benjamin KLAUS**, Matthieu BUSSIERE (Banque de France), Marie HOEROVA (European Central Bank) *« Commonality in Hedge Fund Returns : Driving Factors and Implications »*

Jeudi 24 janvier 2013 - January, 24ᵗʰ, 2013
Salle B 103 – Bâtiment B – 1ᵉʳ étage

10h00   *Accueil*

10h20 - 11h20   **Constantin MELLIOS** (Université Paris I Panthéon-Sorbonne - PRISM)
                   « Performance-based Fees and Asset Allocation Under Loss Aversion »

11h20 -12h20   **Jean-François CARPANTIER** (Université Catholique de Louvain – IRES, Université du Luxembourg – CREA), Arnaud DUFAYS (Université Catholique de Louvain – CORE)
                   « Commodities Volatility and the Theory of Storage »

12h20 - 14h20 *Déjeuner*

14h20 - 15h20   **Michel DIETSCH**, Henri FRAISSE (Direction des Etudes, Autorité du Contrôle Prudentiel)
                   « The Reliability and Accuracy of RWAs to Measure Credit Risk : the Case of Business Loans Portfolios Held by Major Banking Groupes in France »

15h20 - 15h30 *Pause café*

15h30 - 16h30   **Lyes KOLIAI** (Université Paris-Dauphine – LEDa [SDFi])
                   « Extreme Risk Modeling : a Sequential EVT-COPULAE Approach with and Application in Stress Testing Purposes »

Résumés des articles

DO WE NEED INTRA-DAILY DATA TO FORECAST DAILY VOLATILITY?

Denisa BANULESCU, Bertrand CANDELON, Christophe HURLIN et Sebastian LAURENT

November 2012

Abstract :

Considering mixed data sampling (MIDAS) regressions, we analyze the influence of the sampling frequency of intra-daily predictors on the accuracy of the volatility forecasts. We propose various out-of-sample comparisons of daily, weekly and bi-weekly volatility forecasts issued from MIDAS regressions based on intra-daily re-gressors sampled at different frequencies. First, we show that increasing the frequency of the regressors until a certain threshold improves the forecasting ability of MIDAS models. In other words, using regressors sampled at five minutes gives more accurate forecasts than using regressors sampled at ten minutes, etc. However, according to the model confidence set test of Hansen (2011), the volatility forecast are statistically equivalent for a sampling frequency of the regressors ranging from five minutes to one hour. Second, for a very high sampling frequency (one minute in our case) the volatility forecasts are less accurate, which could mean that the direct use of high-frequency data does not necessarily improve volatility forecasts. Nevertheless, it had be shown that this type of data is generally affected by the existence of intraday periodicity and the presence of jumps. Using hence data filtered for microstructure noise improves the predictive ability of MIDAS volatility models. Finally, the results are slightly sensitive to the sample period under analysis (crisis or calm). For instance, intro-ducing high-frequency data during a period when important shocks occur, does not necessarily improve volatility forecasts, but it rather destabilizes their performance.

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THE EFFECT OF DERIVATIVE INSTRUMENTS USE ON ACCOUNTING RISK: EVIDENCE FROM BANKS IN EMERGING AND RECENTLY DEVELOPED COUNTRIES

Mohamed Rochdi KEFFALA et Christian de PERETTI

Abstract :

This article has the aim to investigate whether banks in emerging and recently developed countries affect their accounting risk. There is evidence that the use of swaps reduces bank risk while the use of options increases bank risk regardless the sample. Among contributions of this study: forwards reduce bank risk while the effect of futures on bank risk is weak. This work approves that the effect of derivatives on bank risk is almost the same either used by banks in emerging or recently developed countries. The main finding is that sample banks are not at risk by

using derivative instruments. The major implication of the study rejects the argument stipulating that derivative instruments were the principal cause of the most recent financial crises.

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NOISE TRADING AND THE CROSS-SECTION OF INDEX OPTION PRICES

Bart FRIJNS, Fabian IREK, Thorsten LEHNERT et Nicolas MARTELIN

April 2012

Abstract :

Traditional financial theory predicts that noise trader sentiment plays no role for the cross-sectional pattern in stock returns and in the cross-section of option prices. However, empirical research is challenging that view and finds evidence that investor sentiment can be predicted to affect the cross-section of stock returns. In the options literature, research suggests that market sentiment correlates contemporaneously with implied volatilities and the risk-neutral skewness, but the causality is unclear. In recent years, there has been plenty of evidence supporting the notion that mutual fund investors can be classified as noise traders and equity fund flows capture noise trader sentiment. In this paper, using daily aggregated US equity fund flows as a measure of noise trader sentiment, we empirically investigate if the cross-section of index option prices is conditional on our beginning-of-period proxy of noise trading. Overall, our results strongly suggest that noise from the stock market is transmitted into the index option market. We find that when noise traders are bearish (bullish) on a particular day, resulting in flows out of (in) US equity funds, implied volatilities of S&P500 index options tend to significantly increase (decrease) on the following day. Furthermore, our findings also suggest that the shape of the option smirk is partly caused by noise traders active in the equity market. In line with other evidence, the effects are typically more pronounced for out-of-the-money options and short-term options.

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BANK OWNERSHIP AND CREDIT CYCLE : THE LOWER SENSITIVITY OF PUBLIC BANK LENDING TO THE BUSINESS CYCLE

Thibaut DUPREY

November 2012

Résumé :

La cyclicité du crédit a augmenté depuis le début des années 2000, mais le niveau agrégé des prêts octroyés par les banques publiques reste significativement moins cyclique par rapport à celui des banques privées. Ce fait stylisé est testé empiriquement sur 140 pays, entre 1989 et 2009, incluant 464 banques publiques et 72 privatisations. Grâce à l'utilisation de données sur les crises bancaires et les privatisations, il est possible de contrôler pour les nationalisations qui ont eu lieu pendant les crises tout en suivant l'évolution temporelle de leur structure de propriété. Toutefois, la cyclicité du volume des prêts des banques publiques reste hétérogène en fonction (i) de la zone géographique considérée – toujours procyclique dans les pays de l'OCDE, acyclique en Europe, mais contracyclique pour les pays en développement, ou en fonction (ii) de la phase du cycle économique considérée –avec une moindre réaction aux fluctuations économiques en période de récession, même en Europe, où l'expansion du crédit par les banques publiques devient alors acyclique. Par ailleurs, les banques nouvellement privatisées sont effectivement caractérisées par une politique de prêts plus procyclique. De plus, la dette de court/long term et les dépôts des particuliers contribuent significativement à une moindre cyclicité du crédit, tout particulièrement en périodes de récession. Enfin, cette variabilité n'est pas induite par des prêts forcés au gouvernement ni par des arrangements institutionnels.

Mots-clefs : cycle du crédit, procyclicité, banques publiques, privatisations.
JEL Classification : G21, G28, G32, H44.

Abstract :

Overall lending cyclicality increased in the years 2000s, but public bank lending remains significantly less cyclical than their private counterparts. This stylized fact is showed to hold empirically on a dataset of 140 countries over 1989-2009 covering 464 public banks and 72 privatizations while accounting for the unbalanced feature of the panel. Using a dataset on banking crisis and records about bank privatizations, I can control for nationalizations during crisis as well as the evolution of ownership status overtime. Nevertheless the cyclical properties remain heterogeneous depending (i) on the area considered –still procyclical in OECD countries, acyclical in Europe, while countercyclical for developing countries, or on (ii) the phase of the business cycle itself –with lower reactions to economic fluctuations in periods of recession, even in Europe, where credit expansion by public banks is then acyclical. As a robustness check, I indeed observe that newly privatized banks engage in more procyclical lending. In addition, most liability item, like short/long term liabilities or customer deposits, pattern the same reduced cyclicality, especially during economic downturns. Last, I do not find evidences that this cyclical pattern is encompassed by forced loans to the government nor institutional features.

Keywords : lending cycle, procyclicality, public banking, privatizations.

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COMMONALITY IN HEDGE FUND RETURNS : DRIVING FACTORS AND IMPLICATIONS

Matthieu BUSSIERE, Marie HOEROVA et Benjamin KLAUS

August 2012

Abstract :

We measure the commonality in hedge fund returns, identify its main driving factor and analyze its implications for financial stability. We find that hedge funds' commonality increased significantly from 2003 until 2006. We attribute this rise mainly to the increase in hedge funds' exposure to emerging market equities, which we identify as a common factor in hedge fund returns over this period. Our results show that funds with a high commonality were affected disproportionately by illiquidity and exhibited negative returns during the subsequent financial crisis, thereby providing little diversification benefits to the financial system and to investors.

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PERFORMANCE-BASED FEES AND ASSET ALLOCATION UNDER LOSS AVERSION

Constantin MELLIOS

Preliminary version

Abstract :

This paper takes into account the most prevalent practices in terms of fees in order to study the dynamic asset allocation of fund managers exhibiting a loss aversion utility function. Managers are compensated with performance-based (asymmetric and symmetric) fees comprising an underperformance penalty component. The benchmark portfolio relative to which performance of funds is measured may be riskless or risky. Whatever the benchmark, a penalty component may lead managers to take more risk in unfavorable states of the world and less risk in favorable states. In the case of a risky benchmark, a manager also has a position in the benchmark, which is less risky when (s)he faces a penalty.

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COMMODITIES VOLATILITY AND THE THEORY OF STORAGE

J.-F. CARPANTIER et A. DUFAYS

Abstract :

One implication of the theory of storage states that commodity price volatility should increase when inventories are low. We document this volatility feature by estimating asymmetric volatility models for 16 commodity return series, on the period 1994-2011 and show how to account for this feature in Value-at-Risk forecasting. Our contribution is threefold: (i) This study is the first to investigate systematically the volatility implication of the theory of storage for a large panel of commodity types (agriculturals, metals, precious metals and tree crops); (ii) Since inventories are hard to measure and define, especially for high frequency data, we use in the volatility model positive return shocks as a new original proxy for inventories; (iii) We finally develop an original asymmetric version of the spline GARCH model and find that the inventory effect remains robust if we allow the unconditional variance to vary over time.

THE RELIABILITY AND ACCURACY OF RWAS TO MEASURE CREDIT RISK : THE CASE OF BUSINESS LOANS PORTFOLIOS HELD BY MAJOR BANKING GROUPS IN FRANCE

Michel DIETSCH et Henri FRAISSE

2 October 2012

Abstract :

There is a growing concern about the differences between risk weighted assets (RWAs) amounts across banks and across countries. This paper provides new evidence on this issue by using French Credit Register data and firms' ratings histories of more than 400.000 French firms to compute RWAs in business loans portfolios of major French banking groups. Using Credit Register information and ratings provided by the Banque de France rating system allows computing RWAs by using a single common credit risk metrics and actual empirical rates of default at the bank's exposure level. Using this information, RWAs are computed for each French banking group. Then, the paper addresses the issue of the reliability and accuracy of RWAs as measures of credit risk in the business loans portfolios of major French banking groups. To this aim, the analysis relies on an extension of the asymptotic single risk factor model (ASFR), which was used for the calibration of Basel II regulatory formulas. Thus, a multifactor portfolio's credit risk model is implemented to compute economic capital requirements taking account of potential credit risk concentration in business loans portfolios. Then, the paper compares required capital ratio provided with this model with required regulatory capital ratio. Our main results are, firstly, that the single risk factor regulatory model does not capture potential concentration or diversification effect in strongly granular business loans portfolios. In this model, firms' heterogeneity is only captured by their ratings. The introduction in the portfolio credit risk modeling of additional systematic risk factors - which are here firm size and firm sector – show that situations of strongly correlated defaults could exist in certain segments of the portfolios or, on the contrary, that some segments could produce a diversification effect. Such situations determine an increase or a decrease of the capital level required to cover future unexpected losses, depending of the case. However, secondly, Basel II

regulatory capital requirements are larger than the economic capital requirements, either in the single or in the multifactor approach. In other words, our results demonstrate that present RWAs formulas do not under-estimate portfolio credit risk, at least when considering French business loans portfolios, and this result holds whatever the French banking group.

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EXTREME RISK MODELING : A SEQUENTIAL EVT-COPULAE APPROACH WITH AN APPLICATION IN STRESS TESTING PURPOSES

Lyes KOLIAI

Abstract :

In this paper, we present a sequential econometric model based on a flexible specification of financial asset returns with an emphasis on extreme values. The model is structured in two parts. The first captures distributions and dynamic processes of the returns, combining Extreme Value Theory with a flexible ARMAGARCH model specification. The second part captures the dependence structure of the multivariate system of returns, using an R-vine model based on the pair-copulae theorem. The model is estimated for three daily datasets containing stock indexes, exchange rates and commodity prices. Our results confirm the key univariate stylized facts of financial return series. Unlike previous works however, they suggest a symmetric dependence structure of return series and in two cases out of three, extreme dependence is asymptotically null. Static and dynamic performances of the developed model seem to be superior to the DCC and meta-copulae models often used in practice.

The use of this model in a stress tests framework reveals an evolution of losses proportional to the initial choc and the test horizon. Results also show a significant heterogeneity of losses obtained by different models. The choice of a flexible – and performing – specification ensures the credibility of the stress scenario and a better use of the results obtained. We have shown in this respect, the important properties of the semi-parametric R-vine model we developed.

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