Yaping Wang

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Department Contacts

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References

Professor **Christian Brownlees (Advisor)**
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Professor **Gábor Lugosi**
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Professor **David Rossell**
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Education

2021 – *Present* **Ph.D. in Economics**
Universitat Pompeu Fabra, Spain
Provisional thesis title: Essays on high-dimensional econometrics
Expected Completion Date: March 2026

2020 – 2021 **Master of Research (M.Res.) in Economics and Finance**
Universitat Pompeu Fabra, Spain

2019 – 2020 **Master of Science (M.Sc.) in Finance**
Barcelona School of Economics, Spain

Research Interests

Econometrics, high-dimensional statistics, factor models, quantile regression, empirical finance

Working Papers

Bridging Dense and Sparse Models in High-Dimensional Quantile Regression (Job Market Paper)

Abstract: This paper introduces a high-dimensional quantile regression that bridges the dense and sparse modeling perspectives by allowing conditional quantiles to depend densely on latent factors capturing pervasive comovements and sparsely on idiosyncratic components reflecting heterogeneous, localized shocks. The resulting framework combines the interpretability and variable selection advantages of sparse models with the stability and dimension reduction of factor models. Theoretically, we establish consistency and convergence rates for the proposed estimator under weak temporal dependence and allow for both strong and weak factors. Simulation studies demonstrate favorable finite-sample performance and highlight a trade-off under weak factors, where the need to retain idiosyncratic components increases as the precision of their estimation deteriorates.

Performance of Empirical Risk Minimization for Principal Component Regression (with Christian Brownlees and Guðmundur Stefán Guðmundsson) *R&R at Econometric Theory*

Abstract: This paper establishes bounds on the predictive performance of empirical risk minimization for principal component regression. Our analysis is nonparametric, in the sense that the relation between the prediction target and the predictors is not specified. In particular, we do not rely on the assumption that the prediction target is generated by a factor model. In our analysis we consider the cases in which the largest eigenvalues of the covariance matrix of the predictors grow linearly in the number of predictors (strong signal regime) or sublinearly (weak signal regime). The main result of this paper shows that empirical risk minimization for principal component regression is consistent for prediction and, under appropriate conditions, it achieves near-optimal performance in both the strong and weak signal regimes.

Cross-Validating the Number of Factors for Prediction (Preliminary)

Abstract: This paper studies how to determine the number of factors k by cross-validation in high-dimensional predictive models. We consider a nonparametric setting in which the relationship between the target variable and high-dimensional predictors is unspecified, and treat the number of factors as a tuning parameter for prediction: factors are estimated fold-wise from predictors only, k is selected to minimize the validation loss in predicting the target, and factors are re-estimated on the full sample once is k chosen. We show that fold-wise cross-validation achieves *near-oracle* out-of-sample predictive performance under both strong and weak factors regimes. Extensions to weakly dependent data are derived using blocked cross-validation, providing valid performance guarantees for factor-augmented predictions with time series. Our empirical application shows that cross-validated factor selection yields smaller out-of-sample prediction errors than information-criterion-based choices, particularly when the factors are weak or their directions are misaligned with the target.

Professional Activities

Seminars and Conference Presentations

2025	The XVt Workshop in Time Series Econometrics (Zaragoza, Spain)
2025	BSE PhD Jamboree (Barcelona, Spain)
2023 - 2025	UPF Internal Statistics Seminar (Barcelona, Spain)
2024	2024 Asian Meeting of the Econometric Society (Hangzhou, China)
2024	28th EAYE Annual Meeting (Paris, France)
2023	The XIIIt Workshop in Time Series Econometrics (Zaragoza, Spain)
2022	UPF Internal Econometrics Seminar (Barcelona, Spain)
2022	BSE PhD Jamboree (Barcelona, Spain)

Posters

2022	BSE Summer Forum (Barcelona, Spain)

Teaching Experience

2024 – 2025	TA: Operations Management	Undergraduate	UPF
2021 – 2023	TA: Financial Derivatives and Risk Management	Undergraduate	UPF
2023	TA: Econometrics I	Undergraduate	UPF
2022	TA: Econometrics	Graduate	BSE
2022	TA: Quantitative and Statistical Methods I	Graduate	BSE
2021	TA: Financial Management	Undergraduate	UPF
2020 – 2021	TA: Investments and Portfolio Management	Graduate	BSM

research experience

2021	Research Assistant for Professor Miguel Andres Espinosa Farfan

Awards and Scholarships

2021 – 2025	Teaching Assistant Fellowship – Univesitat Pompeu Fabra
2020 – 2021	Master of Research Tuition Waiver – Univeritat Pompeu Fabra
2019 – 2020	Master Tuition Waiver – Barcelona School of Economics

Skills

Languages:	Mandarin/Chinese (Native), English
Programming:	Python, R, MATLAB, Stata, SQL
Miscellaneous:	LaTeX, Git, Docker, MongoDB, HTML, CSS, Shell script

Personal Information

Citizenship:	Chinese