

ANNUAL REPORT

2021

Centre for Applied Macroeconomics and Commodity Prices
(CAMP)

BI

CENTRE FOR APPLIED
MACROECONOMICS AND
COMMODITY PRICES (CAMP)

Contents

1	Centre for Applied Macroeconomics and Commodity Prices	3
2	Funding	3
3	Highlights from 2021	4
4	CAMP Network	6
5	PhD Courses	9
6	Working Papers	9
7	Publications in International Journals	10
8	Online Presence	11
9	CAMP in the Media	12
10	Financial News Index	13
11	CAMP blog	14
12	MACROCAMP	14

1 Centre for Applied Macroeconomics and Commodity Prices

Centre for Applied Macroeconomics and Commodity Prices (CAMP) brings together economists working on applied macroeconomic issues, with special emphasis on energy economics. The research activities at CAMP are broad and encompass all elements pertaining to the analysis of energy economics, macroeconomics and commodity prices. The Centre was founded and directed by Professor Hilde C. Bjørnland in 2012, and is now under direction of Manager and Associate Professor Leif Anders Thorsrud, Director and Professor Hilde C. Bjørnland and Deputy Director and Adjunct Professor Ragnar Torvik.



Leif Anders Thorsrud - Manager, Hilde C. Bjørnland – Director, Ragnar Torvik – Deputy Director

2 Funding

CAMP has received funding from Equinor, the Research Council of Norway and the Finance Market Fund. These are non-exclusive relationships, and CAMP welcomes support from other sources. Our research is independent of positions taken by any funders.

2.1 Equinor’s Research program in Petroleum and Energy Economics

- Equinor has renewed their research collaboration with CAMP at BI related to energy economics. The program was established in 2012 and renewed for a five-year period in 2017. In 2021, Equinor renewed the program for additional five years, 2022-2026.

- The purpose of the program is to develop new academic research capacity in the economics of resource management and financial wealth based on petroleum and energy. The academic program is based on the Norwegian experience over the last four decades, and it has a focus on Norwegian challenges for the coming decades.

2.2 The Resource Council of Norway

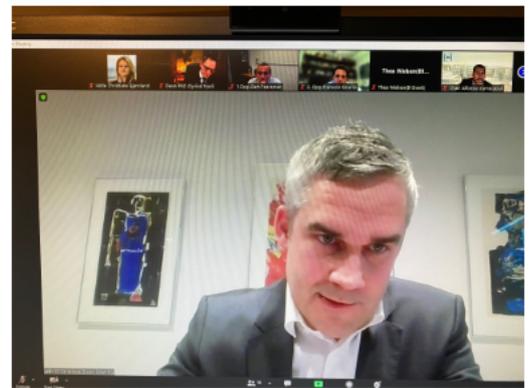
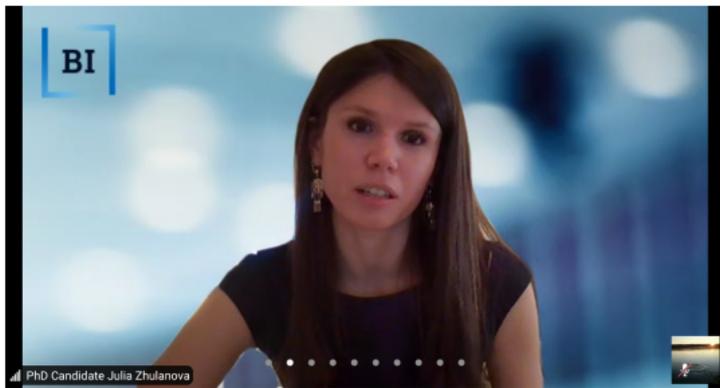
- In 2017 The Resource Council of Norway (NFR) awarded gift-strengthening support for CAMP.
- In 2020 NFR awarded CAMP with funding for the research project “The Corona-crisis, structural change, and macroeconomic policy”. This project analyses economic crisis and structural change through unique data sources, alternative methodological approaches and new economic theories.
- Professor Hilde C. Bjørnland and CAMP heads a new research project named ‘MACRO-CAMP’ in cooperation with Associate Professor Leif Anders Thorsrud (BI and CAMP), Professor Ragnar Torvik (NTNU and CAMP), and researchers from the Australian National University, Indiana University, and Norges Bank. The project has been awarded NOK 12 million by the Research Council of Norway and is due to begin in the summer of 2021 and finish in the spring of 2024.

3 Highlights from 2021

- NFR awarded CAMP with funding for the research project ”MACROCAMP” in cooperation with Associate Professor Leif Anders Thorsrud (BI and CAMP), Professor Ragnar Torvik (NTNU and CAMP), and researchers from the Australian National University, Indiana University, and Norges Bank.
- The CAMP network has published seven CAMP working papers, and eight published or forthcoming papers in international journals.
- CAMP established a blog (www.bicamp.wordpress.com) in 2018. We have continued to develop the blog further, and we have published eighteen blog posts on working

papers and the FNI index in 2021.

- Due to Covid-19, our planned conference on Energy and Climate in August 2020 was postponed, but we will organize it as soon as the situation allows it, and we will keep you updated.
- Two of CAMP's PhD students have successfully defended their thesis, and have thereby graduated from BI Norwegian Business School with a degree of PhD in economics: Julia Skretting and Espen Skretting.



Julia Skretting (left) defending her thesis "Macroeconomic Dynamics, Commodity Prices and Expectations" in March 2021, Espen Skretting (right) defending his thesis "Firms, Oil and Stocks" in December 2021.

4 CAMP Network

4.1 Internal Research Associates

Hilde C. Bjørnland	Director, Professor & Provost	BI Norwegian Business School
Leif Anders Thorsrud	Manager & Associate Professor	BI Norwegian Business School
Fabio Canova	Professor	BI Norwegian Business School
Tommy Sveen	Head of Department & Professor	BI Norwegian Business School
Francesco Ravazzolo	Head of Department & Professor	BI Norwegian Business School
Jamie Cross	Postdoctoral Fellow	BI Norwegian Business School
Helene Onshuus	Researcher 3	BI Norwegian Business School
Paul Labonne	Researcher 3	BI Norwegian Business School

4.2 External Research Associates

Ragnar Torvik	Deputy Director & Adjunct Professor	NTNU
Knut Are Aastveit	Deputy Director	Norges Bank Research
Vegard Høghaug Larsen	Senior Researcher	Norges Bank Research
Julia Skretting	Researcher	Statistics Norway

4.3 PhD Candidates

Thomas Størdal Gundersen	Lecturer	BI Norwegian Business School
Felix Kapfhammer	PhD Candidate	BI Norwegian Business School
Jon Ellingsen	PhD Candidate	BI Norwegian Business School
Maximilian Schröder	PhD Candidate	BI Norwegian Business School

4.4 Visiting Scholars

Christiane Baumeister	Professor	University of Notre Dame
Drago Bergholt	Researcher & Senior Adviser	Norges Bank
Yoosoon Chang	Professor	Indiana University Bloomington
Marcelle Chauvet	Professor	UC Riverside
James Hamilton	Professor	University of California
Ana M. Herrera	Professor	University of Kentucky
Renée Fry-McKibbin	Professor	Australian National University
Warwick McKibbin	Professor	Australian National University
Douglas Laxton	Adjunct Professor	NOVA School of Business and Economics
Junior Maih	Senior Advisor	Norges Bank
Galo Nuno	Economist	Banco de España
Joon Y. Park	Professor	Indiana University
Michael Plante	Senior Researcher	Federal Reserve Bank of Dallas
Philip Rothman	Professor	East California University
Kenneth Singleton	Professor	Stanford University
Joaquin Vespignani	Associate Professor	University of Tasmania
Mike West	Professor	Duke University
Benjamin Wong	Senior Lecturer	Monash University
Jing Cynthia Wu	Associate Professor	University of Notre Dame

5 PhD Courses

Date	PhD Course	Where
03-10.11.2021	CAMP organized a Mini PhD course on “Oil Markets and the Macro Economy” . Professors Hilde C. Bjørnland, Ragnar Torvik and Christiane Baumeister, as well as Postdoctoral Fellow Jamie Cross lectured on relevant methodology and papers on the subject.	Oslo, Norway

6 Working Papers

Issue	Title	Authors
1/2021	OPEC’s Crude Game: Strategic Competition and Regime-switching in Global Oil Markets	Thomas S. Gundersen and Even S. Hvinden
2/2021	The Inefficient Combination: Competitive Markets, Free Entry, and Democracy	Halvor Mehlum, Gisle Natvik and Ragnar Torvik
3/2021	Quantifying time-varying forecast uncertainty and risk for the real price of oil	Knut Are Aastveit, Jamie L. Cross and Herman K. van Dijk
4/2021	Macroeconomic Forecasting with Large Stochastic Volatility in Mean VARs	Jamie L. Cross, Chenghan Hou, Gary Koop and Aubrey Poon
5/2021	The Price Responsiveness of Shale Producers: Evidence From Micro Data	Knut Are Aastveit, Hilde C. Bjørnland and Thomas S. Gundersen
6/2021	The Role of Precautionary and Speculative Demand in the Global Market for Crude Oil	Jamie L. Cross, Bao H. Nguyen and Trung Duc Tran
7/2021	The household effects of mortgage regulation	Knut Are Aastveit, Ragnar Enger Juelsrud and Ella Getz Wold

7 Publications in International Journals

7.1 Published in 2021

Ferrani, D., Ravazzolo, F. and Vespignani, J., 2021, Forecasting energy commodity prices: A large global dataset sparse approach. *Energy Economics*, vol. 98, June 2021, 105268

Larsen, V. H., 2021, Components of Uncertainty. *International Economic Review*, vol. 62, no. 2.

Alstadheim, R., Bjørnland, H. C. and Maih, J., 2021, Do Central Banks Respond to Exchange Rate Movements? A Markov-Switching Structural Investigation of Commodity Exporters and Importers. *Energy Economics*, vol. 96.

Bjørnland, H. C., Nordvik, F. M. and Rohrer, M., 2021, Supply Flexibility in the Shale Patch: Evidence from North Dakota. *Journal of Applied Econometrics*, vol. 36, pages 273-292.

Canova, F. and Matthes, C., 2021, Dealing with misspecification in macroeconomic models. *Quantitative Economics*, Vol. 2.

Canova, F. and Matthes, C., 2021, A composite likelihood approach for dynamic structural models. *The Economic Journal*, Vol. 131, pages 2447-2477.

Mehlem, H. and Torvik, R., 2021, The macroeconomics of COVID-19: a two-sector interpretation. *Review of Keynesian Economics*, 2021, Vol. 9 No. 2, Summer 2021, pp. 165–174.

Miller, J. I., Bjørnland, H. C. and Chang, Y., 2021, New Developments in the Econometric Analysis of Energy and Climate. *Energy Economics*, 100, 1-3. Special issue on "Energy & Climate Econometrics".

Ellingsen, J., Larsen, V. H. and Thorsrud, L. A., 2021, News media versus FRED-MD for macroeconomic forecasting. *Journal of Applied Econometrics*, 1-19.

7.2 Forthcoming Publications

Aastveit, K. A., Bjørnland, H. C. and Cross, J., Inflation expectations and the pass-through of oil prices. Forthcoming in *Review of Economics and Statistics*.

Larsen, V. H. and Thorsrud, L. A., Asset returns, news topics, and media effects. Forthcoming in *Scandinavian Journal of Economics*.

8 Online Presence

The Covid-19 pandemic has limited onsite activities, but the CAMP network has gained experience in being present online, and these are some of the events CAMP researchers have participated in.

Date	Activity	Involves
16.02.2021	Gjennom en møteserie i tre deler inviterer Abelia, Energi Norge, Rederiforbundet, Tekna og Norsk klimastiftelse til kunnskapsdeling og debatt om den store omstillingen av Norge. Del 2: Hva skal vi leve av? Du kan nå se opptaket. Samtale med Kim Gabrielli, administrerende direktør i UN Global Compact Norge og Hilde Bjørnland, professor på Handelshøyskolen BI. Ledet av Vibeke Munthe Kaas, strategidirektør i Abelia	Hilde C. Bjørnland
07.12.2021	Podcast Oslo Business Forum: #49 Hilde Bjørnland - Samfunnsøkonomen om pandemiens ringvirkninger	Hilde C. Bjørnland
10.12.2021- 11.12.2021	Professor Hilde C. Bjørnland was a keynote speaker at $(EC)^2$ in Aarhus in December 2021. The European Conference of the Econometrics community was planned to be an onsite conference at Aarhus University, but due to the development in the pandemic situation it ended up online. The topic of the conference was Econometrics of Climate, Energy, and Resources.	Hilde C. Bjørnland

9 CAMP in the Media

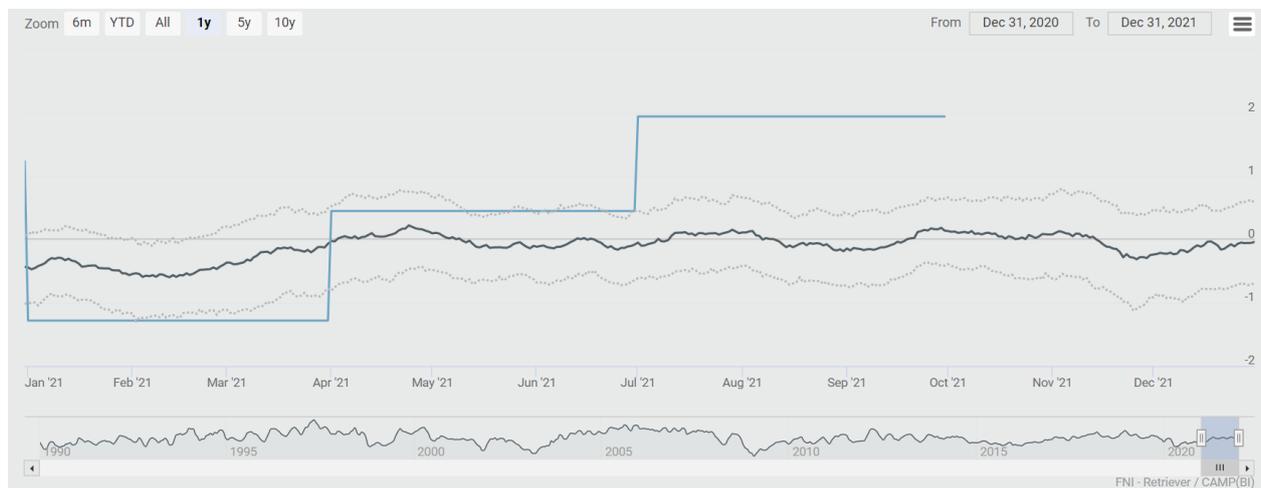
Op-eds and selected media appearances by CAMP associates (in Norwegian).

Date	Media	Involves
19.01.2021	Økonomer frykter arbeidstagere kommer dårlig ut av ny permitteringsutvidelse (DN)	Hilde C. Bjørnland
03.02.2021	Prognoseprisen for 2020 - CAMP på tredje plass (Finansavisen)	CAMP
10.02.2021	Kronikk: God grunn til å frykte boomerang til høsten (DN)	Hilde C. Bjørnland
11.05.2021	BI-professor om oljepengebruken: – Regjeringen undervurderte hvor stor nedgangen kom til å bli (DN)	Hilde C. Bjørnland
26.05.2021	Kronikk: På tide med nye regler for oljepengebruken (DN)	Hilde C. Bjørnland
28.05.2021	Innlegg: Litt mer hattehulle? (DN)	Leif Anders Thorsrud
06.06.2021	Innlegg: Handlingsregelen bør fortsatt skrotes (DN)	Hilde C. Bjørnland
25.08.2021	Kronikk: Koronaskjevhet kan bremse oppgangen (DN)	Hilde C. Bjørnland
03.11.2021	Kronikk: Mer data og nye analyser skal gi bedre og tidligere varsel om neste epidemi. Hva så med den økonomiske krisevarslingen? (DN)	Hilde C. Bjørnland
30.11.2021	Hvordan kan klimaendringene ramme din økonomi? (Forskning.no)	Leif Anders Thorsrud

10 Financial News Index

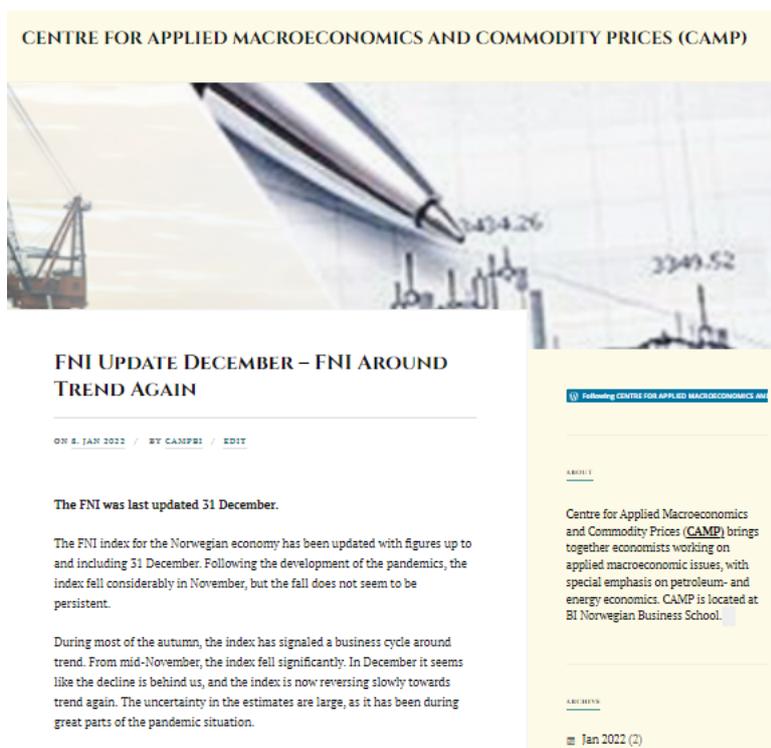
The Financial News Index (FNI) was established by CAMP and Retriever in 2017. The index is designed to track Norwegian GDP growth and the business cycle at high frequency. Its underlying indicators are daily time series representing how much the media writes about various topics. Already in February 2020, the FNI alarmed that we had tough times ahead. The index captured the development in the business cycle, but we observed that the uncertainty in the estimates increased. Therefore, we have updated the algorithms we use to estimate the FNI index. This entails that the historical observations change somewhat but the broader picture remains. Our tests show that the updated version is better at capturing the variation in the Norwegian economy than the previous version was.

If you want to read more about our FNI updates in 2021, please visit our [blog](#).



11 CAMP blog

CAMP has established a blog: <https://bicamp.wordpress.com>. The purpose of the blog is to convey news and research on a less formal platform than the website. So far, we have written about new working papers and updates of the FNI index. In the future, we aim to write about CAMPs take on current topics. We invite our network to contribute with posts.



The image shows a screenshot of a blog post from the Centre for Applied Macroeconomics and Commodity Prices (CAMP). The header of the blog is "CENTRE FOR APPLIED MACROECONOMICS AND COMMODITY PRICES (CAMP)". The main title of the post is "FNI UPDATE DECEMBER – FNI AROUND TREND AGAIN". The post is dated "ON 8. JAN 2022 / BY CAMPEI / EDIT". The text of the post discusses the FNI index for the Norwegian economy, noting that it was last updated on 31 December. It mentions that the index fell considerably in November but is now reversing slowly towards trend again. The post also includes a sidebar with the CAMP logo and a brief description of the center's focus on applied macroeconomic issues, with special emphasis on petroleum- and energy economics. The sidebar also mentions that CAMP is located at BI Norwegian Business School. The date "Jan 2022 (2)" is visible at the bottom of the sidebar.

12 MACROCAMP

The Corona pandemic has had a dramatic impact on business and society, and it is unlikely that the global economy will return to a pre-2020 normal. Even as the coronavirus starts to recede, we remain at the beginning of a global climate crisis set to fundamentally change the economy.

A fundamental problem with current economic models is that they assume stable economic relationships for example between industrial sectors, production, employment, and capital. Looking ahead, that is clearly inadequate. The pace of change is increasing, and policymakers need tools that can monitor the economy in real-time and theories able to capture structural economic change.

The main idea behind the project is to combine different data sources, alternative methodological approaches and new economic theories to study drivers of economic crises, structural changes and the effect of economic policy.

- The first part of the project will explore the possibility of setting up an early warning system for global incidents such as the pandemic and analyze how the pandemic and subsequent policy actions have affected the three small open economies Australia, Norway, and Sweden. As a part of the project, the researchers will use machine learning and natural language processing technologies, and alternative data sources, such as daily media coverage of economic news to capture signals of economic developments.
- The second part of the project will study how crisis events affect ongoing structural changes in the economy and discuss the role of economic policy in such transformations.
- In the final part, the researchers will extract detailed micro data to understand how structural change and large macroeconomic shocks affect individual firms and households behaviour, and study the macroeconomic implications of such microeconomic behaviour.

CAMP – Centre for Applied Macroeconomics and Commodity Prices

Nydalsveien 37, 0484 Oslo

www.bi.no/camp

