

The Norwegian research meeting in economics 2012

UMB School of Economics and Business

Norwegian University of Life Sciences



Tuesday January 3

- 09:30 Bus departing Oslo airport Gardermoen
- 10:00 Registration / coffee
- 11:00 Plenary I**
- 11:00 Welcoming addresses
- 11:15 **Bengt Kriström** (Swedish Agricultural University):
Dynamic CBA and Hydropower investments: A review of some old, some new and some wild ideas
- 12:00 The 2011 prices for economic research in the honor of Alfred Nobel
Hilde C. Bjørnland (Norwegian School of Business): On Thomas Sargent
Espen R. Henriksen (Norges Bank Investment Management): On Christopher Sims
- 13:00 Lunch
- 14:00-16:00 Parallel sessions I**
- 16:00-16:30: Break with coffee/refreshments
- 16:30-18:30 Parallel sessions II**
- 18:30 End of academic program Day 1
- 19:00-22:00 Conference Dinner (in the Economics building at the campus)
- 22:00 Buses to Thon Hotel Ski

Wednesday January 4

- 08:45 Buses leave Thon Hotel Ski for UMB
- 09:15-10:45 Parallel sessions III**
- 10:45-11:00 Break with coffee
- 11:00- 12:30 Parallel sessions IV**
- 14:00-15:00 Plenary session II**
- 14:00 **Erwin Bulte** (Wageningen University): "Informal institutions and underdevelopment: unorthodox data from the forest edge"
- 14:45 Closing of the conference, welcome to Stavanger in 2013
- 15:15: Bus departing for Oslo airport Gardermoen

Tuesday January 3

- 09:30 Bus departing Oslo airport Gardermoen
- 10:00 Registration / coffee
- 11:00 Plenary I**
- 11:00 Welcoming addresses
- 11:15 **Bengt Kriström** (Swedish Agricultural University):
Dynamic CBA and Hydropower investments: A review of some old, some new and some wild ideas
- 12:00 The 2011 prices for economic research in the honor of Alfred Nobel
Hilde C. Bjørnland (Norwegian School of Business): On Thomas Sargent
Espen R. Henriksen (Norges Bank Investment Management): On Christopher Sims
- 13:00 Lunch
- 14:00-16:00 Parallel sessions I**
- 16:00-16:30: Break with coffee/refreshments
- 16:30-18:30 Parallel sessions II**
- 18:30 End of academic program Day 1
- 19:00-22:00 Conference Dinner (in the Economics building at the campus)
- 22:00 Buses to Thon Hotel Ski

Wednesday January 4

- 08:45 Buses leave Thon Hotel Ski for UMB
- 09:15-10:45 Parallel sessions III**
- 10:45-11:00 Break with coffee
- 11:00- 12:30 Parallel sessions IV**
- 14:00-15:00 Plenary session II**
- 14:00 **Erwin Bulte** (Wageningen University): "Informal institutions and underdevelopment: unorthodox data from the forest edge"
- 14:45 Closing of the conference, welcome to Stavanger in 2013
- 15:15: Bus departing for Oslo airport Gardermoen

IA: Governing structures, prices, land and distribution

Room: TU01

Session Chair: Pål Boug

Land acquisition, disposal, market and non-market transactions: Evidence from Uganda

Presenter: John H. Ainembabazi (Norwegian University of Life Sciences)

Co-author: Arild Angelsen

An emerging empirical literature questions whether land fragmentation and declining farm size lead to increased inequality in land distribution. We approach the issue by answering two questions: Is land inheritance an outcome of incomplete or missing land markets? How does land inheritance influence land disposal and acquisition decisions? We use a switching regression and panel data from Uganda. We find that conditional on land inheritance at the time of household formation, the households that are initially land-poor pursue investment in landholding through land markets, while those that are land-rich dispose of land through land sales and bequests. Evidence suggests that the process of land equalization is spread out in the sample.

Discussant: Pål Boug

Access to land in Tigray: Is there a gender bias?

Presenter: Therese Dokken (Norwegian University of Life Sciences)

Land is typically the most valuable asset of rural populations in developing countries. This study use household data from the northern highlands of Ethiopia to examine whether female and male headed households have different access to land, and whether the land reform and certification that took place in the 1990's subsequently improved women's land rights following household dissolution. Findings show there is a gender bias in access to land that goes beyond the common explanations of differences in household size and access to non-land resources, even following land reforms that intended to strengthen women's land rights. The main policy implications are to improve the certification process and target the perceptions of women as poor farmers to ensure equal land rights for men and women.

Discussant: Erling Vårdal

A conceptual note on the aggregation of international prices using index numbers

Presenter: Pål Boug (Statistics Norway)

Co-author: Andreas Benedictow

Aggregation of international prices in empirical work is generally based on well known index number formulas. However, a common practice using such formulas is the reliance on price indices rather than price levels for which data across countries are rarely available. Numerical calculations of price aggregates are therefore typically not able to fully capture the increasingly important role that low-cost countries play in determining international prices. When only price indices for a tradable group of interest are available the question arises of how to approximate relative price levels across countries to accommodate inflationary impulses and price level differences in a final index number. In the present note, we address this question from both a theoretical and an empirical perspective. We propose a conceptual framework for

analysing sources of change in international prices using the Törnquist price index as the underlying index number formula. Herein, we suggest a calibration method based on purchasing power parities to make a relative price index interpretable as a relative price level. We present an illustrative numerical example based on data from the industry of textiles and wearing apparel. Our findings show that the impact of price level differences (the so-called China effect) is substantial in the computed aggregate of international prices.

Discussant: Therese Dokken

Demand for drought insurance in Ethiopia

Presenter: Million Tadesse

Co-authors: Frode Alfnes and Stein T. Holden

This paper uses a choice experiment to elicit smallholders' WTP for weather index insurance in the highlands of Ethiopia. The paper explores a recent innovative in agricultural risk management: allowing farmers to pay for drought insurance with labour. Households were asked to choose between three insurance payment methods and a none-of-these option. The insurance schemes were described by three attributes: work, cash and payout. To secure identification of the attributes we used a SAS macro to create fractional factorial design with three factors: work, cash, and payout rate. We analyze the choice data using a mixed logit model where we allow the parameters of all three attributes in the choice experiment to be random parameters with a normal distribution. To capture, how previous events related to food shortage affect the willingness to buy insurance, we add two dummy variables as interaction effect to the two payment variables: work and cash.

We find that smallholders are enthusiastic for having access to insurance products, and that most of them are willing to participate in work for insurance programs at lower daily wage rates than what is common in work for food or work for cash programs. However, most are financially restricted and are not willing to buy insurance with cash unless the insurance is subsidized. Households exposed to food shortage in previous season are more willing to work for insurance than those that have not experienced food shortage; however, they are not willing to pay more in cash. We expect the latter to be a result of income effects, and will in the further analysis control for income effects. Contrary to our expectation, participation in safety net program has no effect on the demand for insurance.

Discussant: Orvika Rosnes

IB: Behavior

Room: T130

Session Chair: Åshild A. Johansen

Anonymity vs. mechanism in voluntary contributions: Experimental evidence

Presenter: Yohei Mitani (Norwegian University of Life Sciences)

We conduct an induced-value laboratory experiment to explore the linear and interaction effects of a provision point (i.e. mechanism effects) and social approval (i.e. named effects) in voluntary contributions. Our results are consistent with previous findings: Provision point mechanism produces higher contributions; Named environment increases average contributions. Our contributions to the literature include the following findings: Mechanism has stronger effect on mean contributions than reducing social distance; Named environment reduces the magnitude of mechanism effects; Named effect is stronger in provision point mechanism than voluntary contribution mechanism; Named environment significantly increases contributions when subjects have acquaintance in their group.

Discussant: Åshild A. Johansen

Public goods and framing

Presenter: Karine Nyborg (University of Oslo)

Co-authors: Kjell Arne Brekke, James Konow

In social dilemmas, there is tension between cooperation that promotes the common good and the pursuit of individual interests. An important contemporaneous example involves disputes among parties to climate change treaties over the distribution of abatement costs: these costs are borne by individuals but the benefits are shared globally. In such cases, individuals frequently appeal to fairness arguments but disagree on which rules are, in fact, fair. We study a contextually rich experiment in which contributions are framed according to different rules. We find that frames do affect contributions in the predicted way but that these differences cannot be attributed to different views of fairness. Indeed, fairness tends to be a unifying force, accounting for considerable agreement. Contributions and negotiating behavior do reflect biases, but these appear to be due to the self-serving use of focal points rather than to differences or biases in views about what is fair.

Discussant: Yohei Mitani

License to govern: The institution of agricultural policy making in Norway

Presenter: Klaus Mittenzwei (Norwegian Agricultural Economics Research Institute):

Co-authors: David Bullock (University of Illinois at Urbana-Champaign), Klaus Salhofer (Technical University of Munich)

We present a formal dynamic model of collective decision-making that allows us to distinguish between two lobbying approaches or institutional set-ups: corporatist and pluralist. Our model is based on, but extends, the class of persuasion games introduced by Milgrom and Roberts (1986) in which government must rely on one or more interested parties to provide information about possible decisions and their consequences. Pluralism is defined as a lobbying approach in which, in the first period, an interest group costly produces private information about its second-period

income situation. Once that information is received, the interest group has the option to report, to misreport or not to report that information to government at a given cost. Government can choose to verify that information at a given cost with a given degree of success.

Corporatism is defined as a lobbying approach in which, in the first period, an interest group and government share the costs of producing information about the interest group's second-period income situation. Once that information is received, it is made public, and the interest group is refrained from the option to misreport or not report. The paper focuses on the informational aspects of lobbying and studies the conditions under which the one institutional set-up may outweigh the other. We also study the overall welfare consequences of the two lobbying set-ups. We apply the model to the corporatist institution of agricultural policy decision-making in Norway in an attempt to provide a potential rationale for the existence of the institutional set-up. We also critically discuss the strengths and weaknesses of our model in general, and applying it to the specific Norwegian case in particular.

Discussant: Karine Nyborg

Credible reciprocity

Presenter: Åshild A. Johansen (University of Stavanger)

Co-author: Ola Kvaløy

It is well established that repeated game incentives enhances cooperation, trust and trustworthiness. The folk theorem can explain why this happens in infinite repeated games. In finite repeated games, however, one must look for other explanations. A common explanation in the literature is that people imitate reciprocity. People who do not exhibit reciprocal preferences cooperate in order to look reciprocal. But if people imitate reciprocity one should also expect that people anticipate imitation by others. In this paper we investigate whether or not people actually apply this strategy, and more importantly whether or not people anticipate reciprocity imitation. We run a within-subject-design experiment using the trust game. The experiment consists of one anticipated repeated game ("repeated treatment") and one not anticipated ("surprise treatment"). First, the subjects play one-shot games with a new opponent four times. Then they meet the same player for a second round - which will come as a surprise for the subjects. This is compared to the results of a standard repeated trust game. The idea is that reciprocal behavior is more credible in the surprise treatment than in the repeated treatment, as they have no reason to act strategically in the one shot game. If subjects anticipate reciprocity imitation in the repeated game, we expect the levels of trust and trustworthiness in the final round to differ between the two treatments - among those pairs that exhibited trust and trustworthiness. Since those subjects who cooperate in the surprise game have received a credible signal about their opponents' preferences, we would expect this to lead to higher levels of trust and trustworthiness in the second round of the surprise treatment. If reciprocity imitation is important for understanding cooperation in finite repeated games, this should be evident in the difference between the repeated and the surprise treatment.

Discussant: Klaus Mittenzwei

IC: Food markets and consumer preferences

Room: T131

Session Chair: Arnstein Øvrum

Consumer attitudes and preferences towards wild and farmed fish

Presenter: Frode Alfnes (Norwegian University of Life Sciences)

Co-authors: Kyrre Rickertsen, Pierre Combris, Sylvie Issanchou and Jason F. Shogren

From 1970 to 2008, the production of food fish from aquaculture increased at an average annual rate of 8.3 percent from 2.6 million tonnes in 1970 to 52.5 million tonnes in 2008. The contribution of aquaculture to global food fish consumption is expected to continue to rise from 45.7 percent in 2008 to more than 50 percent in 2012. The production numbers is dominated by China, which has more than 60 percent of the world's production (32.7 million tonnes in 2008) and only limited export (FAO, 2010). Europe is one of the prime markets for high value aquaculture products like farmed salmon. In France, for example, farmed salmon has for some time been the most popular fish. The number of fish species that is farmed has increased steadily in recent years and new farmed fish species are introduced to the market. Two of newcomers to the French market are farmed cod from Northern Europe and farmed pangasius, a fresh water fish mainly produced in the Mekong delta in Vietnam. With the rapid increase in the world's aquaculture production and the increasing number of fish species farmed, it is important to study consumer preferences for wild versus farmed fish. Do consumers care whether the fish is farmed or wild, or are they indifferent as long as the fish taste good? Are there differences in preferences between segments and what factors are driving any differences?

In this article, we present the results of a series consumer test including sensory investigations, experimental auctions and a questionnaire conducted to investigate French consumer preferences toward wild and farmed fish. We investigate how various segments differ with respect to attitudes toward farmed and wild fish and investigate how the differences in attitudes affect both tasting scores and willingness to pay for the five fish types.

Discussant: Arnstein Øvrum

Why do Norwegians eat organic food? Lessons from two natural field experiments

Presenter: Alexander Schjøll (Statens institutt for forbruksforskning)

Co-authors: Frode Alfnes, Svein Ole Borgen

Ethical issues are difficult to measure in consumer studies. Bias tends to occur when consumers talk in focus groups, ticking boxes in surveys and when answering questions in personal interviews. There are many such potential biases, but they all have in common descending from the fact that respondents know monitoring takes places when using these methods. In this paper we ask whether natural field experiments are a good solution to this bias. Natural field experiments are experiments conducted in its natural environment, not mimicking the real world as in laboratory experiments, but actually being a part of the real world. In a natural field experiment the consumer does not know an experiment is going on, so he has no reason to deviate from his true perceptions. Unlike traditional methods in consumer studies, there is no difference between action and attitude.

The Norwegian government has an official goal of increasing the consumption of organic food. So far we are far away of reaching this goal. We present results from two natural field experiments. The first was conducted in restaurants where the menu was manipulated to see effect on sales. We found that labelling the dish as organic had no effect on sales, even in combination with low price. The second data set shows sales statistics of organic eggs in two grocery stores as we provide information to customers in these stores about animal welfare. Overall we believe that natural field experiments will provide new insight in consumers' perception of organic food. Data collection at natural sales points means we get valid results on the organic attribute comparable with other attributes such as price and brands. This way of doing research on organic food can bring clarity why sales are low and what to do in order to reach the governmental goal.

Discussant: Kristin Roll

**Eliciting consumer preferences for food safety in a developing context:
Comparison of different experimental methods in a real market setting**

Presenter: Roselyne Alphonse (Norwegian University of Life Sciences)

Co-author: Frode Alfnes

In this paper, we present results from a consumer experiment in Tanzania focusing on food safety. This paper aims at eliciting developing country consumer preferences and WTP for food safety. Specifically the study aims at 1) testing if there was embedding effect from adding a new label in the product, 2) comparing five different experimental methods; their robustness in an African (developing country context), challenges in conducting such an experiment in a developing country context and recommendations for a real experiment in a similar context.

We elicit consumer's willingness to pay a premium for tomatoes which have been organically produced and/or inspected by health officials to meet the standards set by The Tanzania Bureau of Standards. Three hundred and one urban consumers from Morogoro in Tanzania took part in the market experiment. The participants valued four types of tomatoes; Organic Uninspected; Organic Inspected; Inorganic Uninspected and Inorganic Inspected. The participants valued the four types of tomatoes using either the; Becker-deGroot-Marchack mechanism(BDM), Multiple price list(MPL), Choice experiment, Choice experiment with a present or Open-ended choice experiment. The study was conducted in a pure local (open-air) market setting where typical urban consumers buy their fresh produces like fruits, vegetables, dry fish and grains. The participants used their own money to buy the chosen products at the end of the experiment, therefore only consumer interested in buying tomatoes participated in the experiment. The results show that on average consumers in a developing country are willing to pay a premium for organically produced and Inspected tomatoes.

Discussant: Alexander Schjøll

Health inequalities over the adult life course: The role of lifestyle choices

Presenter: Arnstein Øvrum (Norwegian Agricultural Economics Research Institute)

Co-authors: Geir Wæhler Gustavsen and Kyrre Rickertsen.

The relationship between socioeconomic status and health is dynamic and evolves over the adult life course. Little empirical attention has been paid to the role of health affecting lifestyle choices in explaining such dynamics. Based on repeated cross-section data from the Norwegian Monitor Survey 1997–2009, this study explores how the income and education gradients in physical activity, consumption of fruits and vegetables, cigarette smoking and self-assessed health evolve over the age range 25–79 years. While the education gradients in physical activity and consumption of fruits and vegetables remain fairly stable throughout the adult life course, the education gradient in smoking is clearly decreasing in age. With the exception of the income gradient in physical activity among females, the income gradients in lifestyles are generally concave in age and decreasing slightly at older ages. However, the role of lifestyles in mediating the relationship between income and self-assessed health seems modest. This result partly reflects that while the income gradients in lifestyles are greatly reduced once we control for education, the reverse is not true. Overall, while income and education differences in lifestyles should generally contribute to cumulative advantage effects in health by socioeconomic status over the adult life course, our results provide some evidence of increased health consciousness and associated lifestyle improvements in age among lower socioeconomic status groups. This could contribute to reducing cumulative advantage effects in health by socioeconomic status at older ages. Given that the education gradients in physical activity, consumption of fruits and vegetables and cigarette smoking are either stable or declining over the adult life course, policies for improved lifestyle habits should mainly target young people and in particular young people with low levels of formal education. However, our results are mixed and more similar research is needed before any firm conclusions can be drawn.

Discussant: Roselyne Alphonse

1D: Macroeconomic modeling

Room: T230

Session Chair: Tommy Sveen

Forecast robustness in macroeconometric models

Presenter: Ragnar Nymoen (University of Oslo)

Co-authors: Gunnar Bårdsen (NTNU), Dag Kolsrud (Statistics Norway)

The paper investigates explanations for forecasting invariance to structural breaks. After highlighting the role of policy, we isolate possible structural invariance in a simplified dynamic macro model that nevertheless has features in common with the standard model of aggregate demand and aggregate supply. We find, as expected, that structural breaks in growth rates and in the means of cointegrating relationships will always damage some of the variables. But we also find examples of "insulation" from shocks. The results about partial robustness is a property of the economy itself (here represented by the DGP) and not of the forecasts.

Discussant: Tommy Sveen

A DSGE model with housing in the cointegrated VAR framework

Presenter: Bjørnar Karlsen Kivedal (Norwegian University of Science and Technology)

In order to empirically investigate the assumptions underlying a theoretical DSGE model, the long-run and the short-run structure of the model may be imposed in the framework given by the cointegrated VAR (CVAR) model. By following the method outlined in Juselius and Franchi (2007), I use the CVAR model to investigate the restrictions underlying the DSGE model in Iacoviello (2005), which is a monetary business cycle model that includes housing in order to include effects from the financial accelerator. This eventually yields a common trends representation of the data subject to the theoretical constraints of the DSGE model which can be used to calculate the impulse responses for different shocks. These impulse responses are then compared to the impulse responses presented in Iacoviello (2005). The results given by the estimated CVAR model indicate that the information given by the data does not correspond well to the restrictions following the assumptions of the DSGE model. This is shown both by testing the cointegrating relationships implied by the long-run relations, and the response to shocks in the period for which the model is estimated.

Discussant: Ragnar Nymoen

New Keynesian predictions for New Keynesian Phillips curve estimations

Presenter: Tord Krogh (University of Oslo)

The New Keynesian Phillips curve (NPC) has for more than a decade been considered 'The' inflation theory of relevance, in particular by DSGE modelers and central bankers. Its credibility relies in large part on the empirical results of e.g. Gali and Gertler (1999) and Sbordone (2002), who show how a quite simple NPC specification is able to 'explain' actual inflation dynamics. This claim has been far from uncontroversial, and numerous papers attack the conclusion that data supports the NPC. In this paper I seek to evaluate the estimation procedure of Sbordone (2002) when the data-generating process is a simple New Keynesian model in which the NPC holds. It will allow us to see how important the problems of endogeneity on behalf of the forcing variable, and errors in the forecasting-procedure applied, are in the 'first best' scenario for those who hold New Keynesian models to accurately describe the real world.

Discussant: Bjørnar Karlsen Kivedal

Capital accumulation, sectoral heterogeneity and the Taylor principle

Presenter: Tommy Sveen (Norwegian Business School)

In this paper I argue that the existing literature overstate the likelihood of indeterminacy in New Keynesian models with endogenous capital accumulation. In fact, I show that the Taylor Principle is sufficient for determinacy for a wide range of parameter values under the realistic assumption of sectoral heterogeneity.

Discussant: Tord Krogh

IE: Climate I

Room: T401

Session Chair: Mads Greaker

REDD credits in a global carbon market: Options and impacts.

Presenter: Caroline Wang Gierløff (Norwegian University of Life Sciences)

Co-authors: Arild Angelsen (Norwegian University of Life Sciences), Angelica Mendoza Beltran (The PBL Netherlands Environmental Assessment Agency), Michel den Elzen (The PBL Netherlands Environmental Assessment Agency)

An inclusion of certified emissions reduction from deforestation and forest degradation (REDD credits) in a future global carbon market remain one of the controversial issues in the REDD and climate debate. An inclusion can mobilize needed funding to realize the REDD potential, and thereby achieve larger global emissions reductions. On the other hand, inclusion of cheap credits from reducing emission from deforestation and forest degradation (REDD) can also crowd out mitigation efforts in developed countries by depressing the carbon price, reducing or eliminating the additionality of REDD inclusion. Calculations are based on the FAIR model that assesses the potential contribution to overall emission reductions by both Annex I and non-Annex I countries and analyzes different scenarios of REDD carbon credit inclusion at the global carbon market, varying mitigation commitment levels and the degree of REDD inclusion. We find that (i) larger emissions reductions and/or lower overall abatement costs can be achieved by including REDD credits in the carbon market. Emissions from deforestation are reduced by 17-51 % under the various scenarios for REDD inclusion. (ii) Significant funding for REDD can be achieved while maintaining a high carbon price and avoiding or minimizing the crowding out of other mitigation efforts. Two ways of achieving this is through more ambitious global commitments, or by discounting REDD credits such that one REDD credit offsets less than one credit of domestic reductions in Annex 1 countries (partial offsetting). And that (ii) an inclusion of REDD credits have distributional impacts, and different effects for Annex 1 and non-Annex 1 parties, and also among non-Annex 1 parties as REDD+ are likely to crowd out some CDM credits.

Discussant: Mads Greaker

Leadership as a void in economics: A perspective on climate policy

Presenter: Gunnar S. Eskeland (Norwegian School of Economics)

The question that is raised in this paper is what climate policy can be like for a country or a coalition of the willing in some decades without global cooperation. While the obvious point can be made - global problems require global solutions - the question is not mute: it looks like Europe more or less will continue its efforts to reduce her emissions while the rest of the world is looking. Economists, rightly worried about the freeriding problem and carbon leakage, are critical or puzzled. In a country like Norway, one still highlights the cost effectiveness criterion in these efforts, including the part of it which asks that emission reductions take place in the south - abroad - whenever this is cheaper than domestically.

In the present paper, I take politicians seriously when they say 'someone must show leadership'. I claim that we economists must be honest to admit both that our recommendations have no aspect of leadership in them, nor do we economists have

much to offer in terms of what leadership could be. I use several arenas of inspiration to explore what leadership could represent. In the course of the argument, I look carefully at the freeriding problem, I ask historical leaders, and I ask: if Norway should be inspiring others, what would it have to do?

Discussant: Caroline Wang Gierløff

Reference levels for REDD: Dilemmas and an assessment of options

Presenter: Arild Angelsen (Norwegian University of Life Sciences)

Setting reference levels (RLs) to calculate the reward to developing countries for 'Reducing emissions from deforestation and forest degradation' (REDD) is a critical issue in climate negotiations and in contracts such as those Norway has entered with Brazil, Guyana and Indonesia. RL determination was identified as one of three major REDD topics during the climate meeting under the UNFCCC in Cancun in 2010. The RL has major implications for climate effectiveness and international distribution. A key dilemma exists between voluntary participation and climate effectiveness.

Political pressure for generous RLs might ensure participation, but may also give inefficient use of limited REDD funds or create 'hot air' in carbon markets.

To facilitate the analysis, the paper suggests a distinction between a BAU baseline (what would happen without REDD) and a crediting baseline (from which level of emissions a country be rewarded for REDD), a distinction often not made in current climate debates. The crediting baseline can be seen as a modified BAU, to reflect actual costs of REDD, a fair sharing among countries, and uncertainty. The paper presents a theoretical discussion of these concepts, and put forwards a specific proposal to set RLs.

From a donor perspective, a major aim is to maximize the emissions reductions from the REDD mechanism and payment, and adjusting RLs can be one of several ways to achieve this. The last part of the paper of the puts the debate on RLs into perspective, and discusses other ways of ensuring efficient use, including the 'corridor approach' of gradually increasing the payment per unit of emissions reduction.

Discussant: Gunnar S. Eskeland

How should technology be designed to limit carbon leakage?

Presenter: Mads Greker (Statistics Norway)

Co-authors: Knut Einar Rosendahl (Statistics Norway), Carolyn Fischer (Resources for the Future)

So far the literature on carbon leakage has been analysing border carbon adjustments as means to reduce carbon leakage. Using border carbon adjustments is however problematic in many ways. Among others they will likely hamper developing countries' export, and it could therefore be argued that they go against the UNFCCC, Article 3.1. In this paper the research question is thus how technology policy could be used instead of BCAs in order to limit carbon leakage.

We employ a trade model with two regions that constitute the whole world. In both regions there is a downstream polluting industry, which is perfectly competitive. Environmental policy differs between the regions, and hence, production will tend to shift to region with the most lenient policy. Moreover, there is one upstream abatement technology firm in each region which owns a patent on some kind of abatement equipment for instance carbon capture technology. Due to the patents

there is imperfect competition upstream.

The model is solved as a two stage game. In the second stage, polluting firms buy abatement technology and decide their output. Likewise, technology firms decide on their output of abatement technology given the demand from the downstream industries. There is free trade in both sectors.

In the first stage governments decide their technology policy. In technology policy we include i) subsidies to abatement for downstream polluting industries and ii) subsidies to the production of abatement technology for upstream technology suppliers.

Our finding is that upstream policies should be preferred to downstream policies, at least if one of the governments has a first mover advantage. Not only, can governments develop a successful new industry based on abatement technology, but also reduce carbon leakage.

Discussant: Arild Angelsen

II A: Risk and finance

Room: TU01

Session Chair: Eilev Jansen

Why do the central bank keep the policy rate too low for too long a time?

Presenter: Jin Cao (Norges Bank)

Co-author: Gerhard Illing (University of Munich & CESifo)

This paper provides a framework for modeling the risk-taking channel of monetary policy, the mechanism how financial intermediaries' incentives for liquidity transformation are affected by the central bank's reaction to financial crisis. Anticipating central bank's reaction to liquidity stress gives banks incentives to invest in excessive liquidity transformation, triggering an "interest rate trap" — the economy will remain stuck in a long lasting period of sub-optimal, low interest rate equilibrium. We demonstrate that interest rate policy as financial stabilizer is dynamically inconsistent, and the constraint efficient outcome can be implemented by imposing ex ante liquidity requirements.

Discussant: Eilev S. Jansen

The effects of banks' funding costs on interest rates and loans to households and businesses?

Presenter: Arvid Raknerud (Statistics Norway)

Co-author: Bjørn Helge Vatne (Bank of Norway, Division of Financial stability)

We use a dynamic factor model and a detailed panel data set with quarterly accounts data for 2001-2011 on all Norwegian banks to study the effects of shifts in banks' funding costs and customer demand on their loan rates and their supplied volume of loans. The cost of market funding is represented in the model by the three-month Norwegian Inter Bank Offered Rate (NIBOR) and the spread of unsecured senior bonds issued by Norwegian banks. Our estimates show clear evidence of incomplete pass-through: a unit increase in NIBOR leads to an approximately 0.8 increase in loan rates. Our findings are consistent with the view that banks face downward-sloping demand curves for loans. We find that households' credit demand is more elastic with regard to the loan rate than the demand from businesses, which is more influenced by business cycle fluctuations.

Discussant: Jin Cao

Myopic risk-taking in tournaments

Presenter: Ola Kvaløy (University of Stavanger)

Co-author: Kristoffer W Eriksen

There is a common notion that incentive schemes in the financial industry trigger myopia and risk-taking. In some sense this contrasts with the concept of myopic loss aversion (MLA), which implies that myopia mitigates risk-taking. A number of experimental studies support the MLA-hypothesis by showing that people take less risk the more frequently their investments are evaluated. In this paper we show experimentally that if subjects are exposed to tournament incentives, they take more risk the more frequently investments are evaluated. We explain our main finding with what we call myopic trailing aversion.

Discussant: Arvid Raknerud

Self-reinforcing effects between housing prices and credit

Presenter: Eilev S. Jansen (Statistics Norway)

Co-author: André K. Anundsen

The financial crisis has brought the interaction between housing prices and household borrowing into the limelight of the economic policy debate. This paper examines the nexus of housing prices and credit in Norway within a structural vector error correction model (SVECM) over the period 1986q2-2008q4. The results establish a two way interaction in the long run, while the contemporaneous feedback matrix is shown to be triangular. A shock in the housing market is transmitted to the credit market after one quarter, while a positive shock in the credit market lead to an immediate increase in housing prices. Interest rates influence housing prices indirectly through the credit channel. Furthermore, households' expectations about the future development in their own and the Norwegian economy has a significant impact on housing prices in the short run. Dynamic simulations show how shocks are propagated and amplified and inclusion of the housing supply side dampens these effects.

Discussant: Ola Kvaløy

II B: Markets and market failures, trade and fairness

Room: T130

Session Chair: Kjell Arne Brekke

Uncertain climate policy decisions and investment timing: Evidence from small hydropower plants

Presenter: Kristin Linnerud (Cicero)

Co-author: Ane Marte Heggedal (Norwegian University of Science and Technology),
Stein-Erik Fleten (Norwegian University of Science and Technology)

When Norway joined the Norwegian-Swedish market for tradable elcertificates on the 1th of January 2012, it put an end to 12 years of political debate on whether, how and when to subsidize renewable electricity production. Based on 214 licenses to construct small hydro power, we have analyzed how investors have responded to this political uncertainty. Did it result in postponement of profitable projects? Or, did investors trust political statements that investments made after 2004 would be entitled to future subsidies, if a scheme were introduced? Did different investor groups respond differently to this political uncertainty?

These problems are analyzed within a real option framework where political uncertainty is translated to investment risk. First, the net present value and the option value for each license and each year are estimated using the Least Square Monte Carlo (LSM) approach developed by Longstaff and Swartz (2001). Second, we use logistic regression analysis to test which of the two investment rules reflect actual investment behavior best: traditional net present value or real options investment rule. We found that (1) professional investors owning a portfolio of licenses acted in accordance with a real options investment rule, and uncertain climate policy decisions delayed their investment rate; and (2) investors owning a single license acted in accordance with a traditional net present value investment rule, focusing on the value of the immediate investment and ignoring policy uncertainty.

Discussant: Trond Erik Lunder

Trade and Environmental Regulations: Evidence from Norwegian firms

Presenter: Alief Rezza (Norwegian School of Economics)

We employ the Norwegian customs data between 1999 to 2005 that record imports at the firm level by country and product code to investigate whether environmental regulations affect trade flows. We also explore the association between import competition with firm exit and study whether the link is driven by polluting firms relocating to country's with less stringent environmental regulations. We additionally introduce different proxies of firms' mobility and show that pollution haven effects are stronger and more discernible when the geographical mobility of the firms is accounted for.

Discussant: Kjell Arne Brekke

Food aid and cereal prices in Ethiopia

Presenter: Meron Arega (Norwegian University of Life Sciences)

Food aid may depress prices by increasing supply in the local market and thus becoming producer's disincentive. Most studies on the disincentive effect of food aid are constrained by poor food aid data availability. This study tries to overcome this problem by using monthly panel dataset that covers 252 Woreda's (districts) under the Productive Safety Net Program (PSNP) from four major regions of Ethiopia (Tigray, Amhara, Oromia and SNNPR) over the period, January, 2007 to December, 2010. The PSNP transfers cash or food or a combination of the two to chronically food insecure households in the selected Woreda's in exchange for public work or for free for about 6 months (January to June) annually, while emergency food aid is also distributed to households in the same Woreda's in response to any emergency food aid appeals. Building on the existing literature, we examine the impact of monthly food and/or cash transfers through PSNP as well as monthly food transfers through emergency relief programs on monthly weighted average producers' prices of major grains (Teff, wheat, maize, barley, millet and sorghum) in the country. We estimate a dynamic panel model using Arellano-Bond two-steps Generalized Method of Moments (GMM). The results show that allocation of food aid from emergency relief programs depresses cereal price. On the other hand, food transfers through PSNP have no significant effect on average cereal producers' price, while cash transfers from the same program have an upward effect. Thus, the study implies that cash based interventions require considerations to deal with the potential market problems, and also food aid emergency relief programs should be designed with better food aid deliveries to avoid the detrimental effects on the local markets.

Discussant: Alief Rezza

Can we buy a right to do wrong?

Presenter: Kjell Arne Brekke (University of Oslo)

Co-authors: Ragnhild Haugli Bråten, Ole Røgeberg

We want to test if subjects have moral objections to quota-trade due to the perception that polluting is morally objectionable. The basic idea is that subject will perceive it as morally objectionable to sell the right to do something wrong. We conduct a public good game framed as a choice where the activity that benefits the subject is harmful for the other group members. The possibility to harm others are then limited, and the right to do so is tradable. Due to differences in productivity, there are benefits from trade. In a control group the identical payoff structure is framed as a trade with no externalities. We find no difference between control and treatment.

Discussant: Harald Bergh

II C: Education

Room: T131

Session Chair: Marianne Haraldsvik

Education outcomes and the business cycle

Presenter: Rune Borgan Reiling (Norwegian University of Science and Technology)

Co-author: Bjarne Strøm

Basic human capital theory and most empirical evidence suggest that enrolment in post-compulsory education increase (decrease) in cyclical downturns (upturns). However, there is little evidence on whether similar patterns exist in completed education. This paper adds to the literature by analyzing the relationship between completion of upper secondary education and regional unemployment using Norwegian regional panel data on students graduating from compulsory school 1980 to 2004. We find robust evidence that completion increase (decrease) in periods with weak (strong) regional labour markets across a range of model specifications including region specific trends, potential asymmetric responses and instrumenting the unemployment rate.

Discussant: Venke Furre Haaland

Impact of Ethiopia's productive safety net program on livestock accumulation and children's education

Presenter: Bethelhem Legesse Debela (Norwegian University of Life Sciences)

Co-author: Stein Holden

We use panel data from Northern Ethiopia to investigate the welfare impact of Ethiopia's Productive Safety Net Program. We specifically study whether Ethiopia's food and cash-for-work program has raised livestock asset levels and children's education among participant households. Using treatment effects models, we find that the program increased livestock holding for participants compared to the non-participants. Participant households invested significantly more in livestock and children's education than non-participant households. Although participant households are more exposed to the prevalent shocks, being a participant in the program helped to protect them from sacrificing their children's education and their livestock holdings in response to shocks.

Discussant: Rune Borgan Reiling

Does performance based school choice affect student achievement?

Presenter: Marianne Haraldsvik (Norwegian University of Science and Technology)

This paper uses data from Norway to investigate the effect of a change in upper secondary enrollment policy on lower secondary performance. In Norway, all graduate students are guaranteed admission to an in-county upper secondary school. How students allocate between schools depend on the county's enrollment regime. While residence based enrollment restricts the students' choice set, a performance based school choice allow students to prioritize among all in-county schools. Hence, this enrollment policy could influence entry requirements to attractive upper secondary schools, as admission to oversubscribed schools is determined by lower secondary grades. Performance based school choice thus enhances the importance of lower secondary achievement, and may create an incentive to exert effort. A change in enrollment policy for one county, Hordaland, give grounds for a difference-in-difference approach to investigate the hypothesis that competition for enrollment in attractive upper secondary schools affect student effort (and performance) in lower secondary. I find evidence of a rise in lower secondary exam score on average of about five percent of a standard deviation. For high achieving students this effect is almost doubled, while I find no effect on performance for low achievers.

Discussant: Bethelhem Legesse Debela

II D: Demographics and distribution

Room: T230

Session Chair: Astrid Marie Jorde Sandsør

Cost structures in the Norwegian care for the elderly sector

Presenter: Sigbjørn Hjelmbrække (Telemark Research)

Co-author: Knut Løyland

A constantly increasing share of elderly in a growing Norwegian population demands for more resources allocated to the care for the elderly, as well as a more efficient utilization of those resources. In the present study we have used data for Norwegian municipalities to analyse cost structures. We use multiproduct cost functions to identify economies of scale and scope. We find large product specific scale economies, but these may be offset by diseconomies of scope. The global economies of scope are therefore small. Our results are vulnerable to changes in assumptions.

Discussant: Astrid Marie Jorde Sandsør

Who pays for whom? Redistributive effects of the Norwegian pension reform

Presenter: Erling Vårdal (University of Bergen)

Co-author: Jasmin Häcker, Christian Hagist

Like most OECD countries, Norway has for many decades faced a demographic ageing process. Since the Norwegian pension system is of a pay-as-you-go type, it was realized that the system soon would run into funding problems. This was the background for Norwegian Parliament when it in 2009 voted to reform the current pension system.

The main elements of the reform were to introduce indexation rules that acted to reduce growth in public old-age expenditures. In particular, benefits are indexed with average gains in life expectancy. As will be shown in this article, this will make the pension system more actuarially fair.

“The quiet revolution” is how the OECD labels the indexing of benefits via life expectancy, since it is part of the pension reform of various countries. Having a mechanism which automatically adjusts pensions if life expectancy changes, is a powerful way to counteract demography induced problems within social security. In the framework of this paper we are mainly concerned with redistributive effects stemming from indexing pension benefits with average gains in life expectancy. While it is beyond question that this policy measure is generally a useful instrument to secure more sustainability, we want to point to the fact that the indexing in line with average gains in life expectancy also includes intragenerational redistribution since men and women exhibiting different absolute life expectancies. Apart from illustrating the intergenerational redistribution effects it is thus purpose of this paper to quantify these intragenerational redistribution effects taking all other redistributive flows as given.

Discussant: Sigbjørn Hjelmbrække

Household size and the anatomy of cities

Presenter: Theis Theisen (University of Agder)

Household size has decreased considerably over time. We use a theoretical model for investigating the relationship between household size and the size and internal structure of a city. In a stylized model, single-person households occupy in equilibrium the central parts of the city, while two-person households live in the less central parts. Differences in incomes and costs of transportation drive the results. Using a numerical example we find that a city with an exogenous population shrinks in geographical extension if the share of single-person households increases. The theoretical results are confirmed by data from two selected cities.

Discussant: Erling Vårdal

Kindergarten for all: Long run effects of a universal intervention

Presenter: Astrid Marie Jorde Sandsør (University of Oslo)

Co-authors: Nina Drange and Tarjei Havnes

Recent research in several fields suggests that investments in early childhood have high returns, especially for disadvantaged children, and many researchers and policymakers are advocating a move towards subsidized child care or kindergarten available for the general population. However, most previous studies have focused on targeted programs for the disadvantaged, and only a few studies shed light on the long-run impact of universal early childhood interventions available for the general population. Moreover, to our knowledge there are no existing studies exploring the effects of making kindergarten mandatory. The introduction of compulsory kindergarten for six year olds in Norway provides us with the opportunity of studying such effects.

Before the reform, the majority of six year olds were enrolled in subsidized child care institutions while the remaining children were mainly cared for in the home. We exploit this variation in the counterfactual mode of care to study the impact on subsequent school performance of a shift from home care to formal kindergarten for a group of children who did not attend a kindergarten programme in a child care center even though it was close to universally accessible. We are to our knowledge the first to study the long term effects of kindergarten attendance on this particular group.

Results suggest that the reform had little impact on children's school performance at graduation from lower secondary school. In all estimations, the estimated effect on the child's grade is below 2% of a standard deviation. In almost all estimations the estimated effect is below 3% of a standard deviation even at the 95% upper bound. These results lead to conclude that extending the reach of kindergarten in the general population by making it compulsory has little effect on children's school performance when access to day care is already substantial.

Discussant: Theis Theisen

II E: Consumer and producer choices

Room: T401

Session chair: Harald Bergh

Determinants of residential firewood consumption in Norway

Presenter: Shuling Chen Lillemo (Norwegian University of Life Sciences)

Co-authors: Bente Halvorsen

The supply of biomass from forest is abundant in Norway (Trømborg et al, 2008), but its share in Norwegian household' energy consumption is relative low. There is a long tradition to use firewood to warm up the houses and firewood once was the dominated heating source. During the last few decades, other energy sources have increased rapidly such as electricity, gas or oil. For example, the use of electricity for heating increased rapidly during the 60-ties and 70-ties. Today, Norwegian households rely heavily on electricity for space heating and electricity is the main heating source for 80% of Norwegian families (SSB, 2008). Firewood, remains in second place, but its share has dropped significantly and now account for about 15% of households' energy consumption. This paper aims to provide policy implication for encouraging more utilization of firewood consumption for Norwegian households. In this article, we analyze the determinants of firewood consumption for Norwegian households. In particular, we focusing on intrinsic factors such as how individual's life style, social identification, environmental attitudes, and socio-economic characteristics, and how they affect firewood consumption. Data from Norwegian Consumer Expenditure Survey (CES), with an additional energy and life style survey (Kleven and Roll-Hansen, 2002) is applied. We estimate a Zero-inflated negative binomial (ZINB) model (Long and Freese, 2006) to analyze our data, as our data set is characterized by overdispersed count data with excess zeros. The results indicate that an urban life style and comfort concerns are negatively correlated with firewood consumption. Price has a strong negative effect on the consumption of firewood. Results also reveal that the type of residence and its locations are important determinants for firewood consumption. Households, who live in farm houses, or in the country side, rely more on firewood for space heating than other. Education and age are also significant determinants.

Discussant: Harald Bergh

Sustainable drivers for renewable energy penetration: A global study

Presenter: Patrick Narbel (Norwegian School of Economics)

A vast array of literature has focused on identifying what factors are leading countries to invest in renewable energy. Even though conclusions differ significantly, research appears to point out that good policies supporting renewable energy are important in order to experience significant activity in the renewable energy field. Yet, few papers have looked at the macroeconomic drivers in order to explain the differences between countries in implementing policies that sustainably drive renewable energy development in a country. The present study contributes to the literature in exploring further these drivers. Based on empirical results from a set of 128 countries over a period of eleven years, it is claimed that wealth, commitment to reducing greenhouse gas emissions and fossil-fuel endowment are the main drivers explaining differences

between countries in terms of renewable energy penetration. The dataset is further divided in three subsets with the aim of illustrating that the main drivers change for each group of countries. For the first group, it is shown that concerns on climate change and wealth are the main drivers for countries that have ratified the Kyoto protocol and committed to a greenhouse gases target. For the second group which consists of the developed countries and rapidly growing countries that are not included in the first group, innovation and wealth are the main drivers. Finally, for developing countries, technology transfer is thought to be the main driver behind renewable energy development.

Discussant: Shuling Chen Lillemo

What causes inefficiency: Determinants of inefficiency in the Norwegian salmon industry

Presenter: Kristin H. Roll (University of Stavanger)

During the last 30 years the Norwegian salmon industry has grown substantially. With a yearly production of almost 1 million tones, salmon farming is today one of Norway's biggest exporting industries. The main forces behind this rapid growth are a number of innovations and a learning process. This paper builds on the previous literature investigating productivity and efficiency in the Norwegian salmon farming industry, but in contrast to previous papers this paper aim to investigating the determinants of the inefficiency. To investigate this we make use of a stochastic frontier approach.

Several factors are believed to have influenced the efficiency of Norwegian salmon farms. The government regulation may have influenced the efficiency of the industry significantly. The Norwegian salmon farming industry is a heavy regulated industry, where the regulations have played an important role in determining the spatial distribution of farms along the Norwegian coast, firm size, and the structure of ownerships. This may have lead to the location of farms at sites with low biophysical productivity, and farm size that is not optimal. We test to see if this is the case. The idea that specialization in production would lead to higher efficiency is also tested. We test if the producers of salmon are more efficient than the producer of both trout and salmon (test of diseconomy of scope). Further, we test if farms occupied by more than one activity (farms that are registered with an activity beside salmon production) have lower efficiency. Finally, we test if the age of the salmon farm influences the efficiency. The frequent innovations in the salmon industry may be advantageous for young farms which uses the newest technology, on the other side these farms lack the experience that older farms often hold.

Discussant: Patrick Narbel

Competition in markets for consumption devices; - and the role of industry structure

Presenter: Harald Bergh (Norwegian School of Economics):

Some goods and services cannot be consumed without use of a technical device. For instance, to play

video games a videogame console is necessary. Thus, a device facilitates transactions between end-users and application sellers. Due to the nature of such devices, the business model of device sellers is often two-sided, and due to substantial costs of buying devices, there are lock in-effects at the consumer side. In this paper we explore how the relationship between device sellers and application sellers affects competition in a device market characterized by these two features. We find that the relationship determines the sign and the magnitude of network effects on the two sides, and to which degree the device sellers internalize them. If internalized by the device sellers, the more positive the network effects, the fiercer the competition.

If device and application sellers are vertically integrated strong networks effects apply on both sides. Since these effects are fully internalized by the integrated firms, the outcome is low device prices. If the sellers are separated, but the applications are exclusive to each device, the outcome is dependent on the contracts. If effective contracts are implementable the result is as if the firms were integrated. However, if there is double marginalization in the pricing of application, the device sellers obtain a larger profit than the integrated firms.

Finally, we show that if non-exclusive applications are sold by independent firms, the device sellers' profits are maximized. The reason is a low business stealing incentive, since the larger market share of a device, the more rents the device seller must give up in order to incentivize the application seller to develop non-exclusive applications. This may explain why we see a progress towards more non-exclusive video game titles.

Discussant: Kristin H. Roll

III A: Political economy and innovation

Room: TU01

Session Chair: Arild Sæther

Coherence between policy formulation and implementation of public research

Presenter: Helge Bremnes (Molde University College)

Co-authors: Erik Nettet, Bjørn G. Bergem

The objective of this paper is to examine the ex ante criteria utilized by the Research Council of Norway (RCN) in the process of selecting project applications from private firms eligible for public funding. Our dataset, which contains RCN's assessments of a multiple set of project characteristics combined with a survey conducted after the project has terminated, is evaluated against various measures of success factors that are relevant according to policy goal achievement. The empirical analysis emphasizes on two goal achievements of particular interest for the government: pure spillover effect, in terms of communication of research results, and technology spillovers effects. The main results from our analysis are (i) the ex ante evaluation performed by RCN officials have a significant impact on the probability of being selected, and some criteria are weighed more heavily than others, (ii) projects that get a high grading on ex ante criteria spillover, and research content, corresponds to the projects that, during the project period, produce a high quantity of publications and international conferences, (iii) the ex ante evaluation of spillover and research content are not invariant to the different measures of realized spillover, (iv) there is a positive correspondence between ex ante evaluation of spillover and the project managers expectation, after the project has ended. Our findings confirm that for this dataset the evaluators grading ex ante, at least to some extent, is consistent with the realized results achieved during the project period, and also in accordance with the project managers' perspectives, at the point of time when the project has ended. However, our study also indicated that evaluation of spillover only manage to capture certain aspects of this term,

Discussant: Arild Sæther

The first Norwegian textbook in political economy

Presenter : Arild Sæther (University of Agder)

Co-author: Ib E. Eriksen

In the year 1845 the weekly magazine Skilling-Magazin (The Penny-Magazine) started an article serial called Oversigt af Statsøkonomien (A Survey of Political Economy). These articles constitute what we can call the first Norwegian textbook in political economy.

These articles in the magazine is not signed, however, the author is probably the magazines editor Carl August Guldberg (1790-1884). It is evident that these articles builds on the book Catechisme d'économie politique (The Catechism of Political Economy) by the French economist Jean- Baptiste Say (1767-1832). In addition the author use examples from Norwegian relations in his expositions.

The first main section is called Produktionens Fænomener (The Phenomena of Production). The second main section has two sub sections. The first; Om Afsætning og Markedsprisen samt Bank- og Pængevæsenet (Sales and Market Price together with Bank and Money Matters) has five paragraphs. The second sub section; De nyfrembragte Værdiers, de er Indtægternes Fordeling iblandt Samfundets Medlemmer (The Newly Produced Values, they are the Distribution of Incomes among the Members of Society). This sections ends with the word 'continues', but the article serial does not continue in later issues of the magazine. A comparison with Say's Catechisme shows that the missing sub-section is the one called 'Distribution'. When Professor Anton M. Schweigaard (1808-1870) in the second half of the 1840's lectured in political economy at The Royal Fredericks University (University of Oslo) he undoubtedly had knowledge of the Skilling-Magazin. A comparison of his lectures that circulated among students with the article serial shows a very strong resemblance.

Discussant: Eirik Romstad

III B: Education and labor markets

Room: T130

Session Chair: Kristine von Simson

Preferences for lifetime earnings, earnings risk and nonpecuniary attitudes in choice of higher education

Presenter: Lars Kirkebøen (Statistics Norway)

Expected earnings are reasonably considered to influence individuals' choice of education. However, the presence of nonpecuniary attributes and the different choice set available to prospective students make identification of this relationship difficult. This paper employs a conditional logit model on exceptionally rich application data, which are likely to reflect the actual preferences of the applicants, given their individual choice sets and. Controlling for several nonpecuniary attributes, average lifetime earnings is shown to strongly influence educational choice. A one-percent earnings increase increases the number of male applicants to an education by about 8 percent and female applicants by about 3.5 percent. However, other attributes also matter, and earnings variability is about as important for educational choices as average earnings.

Discussant: Kristine von Simson

Lagging behind the Joneses: The impact of relative earnings on job quitting

Presenter: Ingeborg Foldøy Solli (University of Stavanger)

Co-author: Mari Rege

In this paper we empirically investigate how people's concerns for relative earnings have an impact on the job quitting rate and growth in earnings. Our hypothesis is that low earnings relative to one's colleagues reduces job satisfaction and increases individuals' motivation to find a better job. The causal relationship between relative earnings and job quitting is identified by utilizing a unique information shock in Norway in 2001, when information about all Norwegians' taxable income from year 2000 were made available online. Our empirical results demonstrate that the information shock increases the job quitting rate by 2.9 percentage points among those with low relative earnings compared to those with high relative earnings. This constitutes a 9 percent increase in the job quitting rate. Moreover, we find that compared to those with high relative earnings at baseline, the information shock leads to a three percent increase in earnings among those with low relative earnings at baseline.

Discussant: Lars Kirkebøen

The transition from school to work for high school dropouts: The effect of temporary help agency work vs. active labor market programs

Presenter: Kristine von Simson (Institutt for samfunnsforskning)

This paper investigates whether temporary help agency (THA) work may function as an active labor market program (ALMP) for young high school dropouts without previous labor market experience. Using the timing-of-events duration model, I analyze how THA work affects the probability of obtaining regular employment and the stability of the first employment spell relative to ordinary youth labor market programs. The results show that both THA and ALMP, with an exception of work practice programs, accelerate the school-to-work transition. However, only wage subsidy programs seem to prolong the subsequent regular employment spell.

Discussant: Ingeborg Foldøy Solli

III C: Climate II

Room: T131

Session Chair: Geir H. Bjertnæs

Incentivizing avoided deforestation in a principal-agent framework: Context specific deviations from the first best contract.

Presenter: Caroline Wang Gierløff (Norwegian University of Life Sciences)

Co-authors: Arild Angelsen, UMB School of Economics and Business

Angelica Mendoza Beltran, The PBL Netherlands Environmental Assessment Agency (PBL), Michel den Elzen, The PBL Netherlands Environmental Assessment Agency (PBL)

Market based initiatives to reduce emissions from deforestation and forest degradation (REDD) have been many over the last years. One policy option is Payment for Environmental Services (PES) contracts that compensate farmers at the forest frontier for avoided deforestation. Using a principal-agent framework we assess a model of a PES contract where the farmers are risk averse and the contracts are given over time. Then, several deviations to the first-best solution are analyzed to adjust for a context where PES schemes are offered; (i) a contract offered to several agents where the principal has limited ability to observe the conservation actions by the different farmers, (ii) a subsistence agricultural household prone to risk with a consumption minimum and (iii) a contract that contracts farmers according to a targeting rule of “additionality”. The first-best solution finds that in addition to being compensated for the opportunity cost of forest it will have to add on an upfront and a cost-of-effort payment. The deviations prove to be costly. We find that that group cooperation and the optimal compensation depends on the technology of producing avoided deforestation, and as more farmers are using the same resource, the more costly a PES will be. We also find that the incentive compatibility constraint for the farmers is greatly influenced by a consumption minimum and the payment required to incentivize avoided deforestation increases with the consumption minimum.

Discussant: Geir H. Bjertnæs

Multi-gas abatement strategies for stabilizing the climate

Presenter: Asbjørn Aaheim (Cicero)

Co-author: Torben. K Mideksa

In reporting emissions of greenhouse gases to the Framework Convention of Climate Change (FCCC), countries use fixed weights, so-called global warming potential (GWP), to compare emissions of different gases. Numerical studies have shown that if climate policy aims at limiting future change of temperature, such as the +2 °C target, fixed weights implies too much abatement of short-living gases in early years, long before the target is binding. This paper provides a formal analysis of optimal weights when climate policy is subject to a target for future increase in global mean temperature, and the climate response to concentrations of greenhouse gases is uncertain. We show that further burdens to future emission control are added because of the uncertainty. This is because early abatement of short-living gases limits options to quickly reduce concentrations if the climate response turns out higher than expected. We provide four principles for the pathways of emissions and concentrations of each gas before and after the constraint on temperature has been approached. In general, emissions as a share of the respective concentrations decline at the same rate for all gases along the optimal path before the target is binding. With reference to the optimal composite of emissions under stabilization, abatement of emissions of short-living gases increase relative to the abatement of emissions of long-living gases over time, as the temperature target approaches. Under a binding target, emissions are weighted according to their contribution to welfare and instantaneous contribution to the temperature increase.

Discussant: Caroline Wang Gierløff

The taxation of climate friendly cars in Norway

Presenter: Geir H. Bjertnæs (Statistics Norway)

Green house gas (GHG) emissions from transport are taxed twice within the Norwegian tax system. There is a tax on GHG emissions from fuels in Norway. The tax on purchases of cars is also differentiated according to each vehicles average emission per mile driven, even though Heldal et. al. (2009) shows that individuals take account of the tax on fuels when they buy a car. Hence, emissions are taxed twice within the Norwegian tax system.

This study analyses tax reforms where the implicit double taxation of GHG emissions from households transport is changed. The study show that the welfare cost per ton reduction in GHG emissions generated by these tax reforms amounts to approximately 5000 NoK. The welfare cost per ton amounts to approximately 1000 NoK when the tax on pushes of climate friendly cares is increased to the tax level of conventional cars. The double taxation also implies that reallocation from conventional cars towards climate friendly cars generates a substantial tax revenue loss. A substantial loss of tax revenue may hamper the Norwegian welfare state. This study quantifies the trade off between tax revenue and reductions in GHG emissions connected to reallocation towards climate friendly cars. The analyzes is conducted within a model developed to study the households choice of different types of conventional and climate friendly cars, se Bjertnæs et al. (2011).

Discussant: Asbjørn Aaheim

III D: Responses to regulation

Room: T230

Session Chair: Kristin Linnerud

Kristin Linnerud

Wicked stepmother – or do municipalities treat private child care as their own?

Presenter: Trond Erik Lunder (Telemark Research)

The paper studies the municipalities' behavior after implementation of the Norwegian child care reform. A central part of the reform was to impose on municipalities to finance private child care institutions. The size of the grant depends on the municipalities' spending per child in their own child care institutions. This has led to an understanding that municipalities with a large share of private child care would have incentives to cut costs in municipal child care just to reduce the grants. We use a simple theoretical model to see if this is an obvious result or if some additional assumptions are necessary for the hypothesis to be plausible. We then do empirical analyses on the effects of the reform. Our results support the hypothesis that a higher share of private child care raises the incentives to reduce costs in municipal child care. We do also test if the effect depends on the political composition of the municipal board. The data do not confirm a hypothesis that left-wing politicians are more likely to cut costs in this setting.

Discussant: Kristin Linnerud

Uncertain climate policy decisions and investment timing: Evidence from small hydropower plants

Presenter: Kristin Linnerud (Cicero)

Co-author: Ane Marte Heggedal (Norwegian University of Science and Technology),
Stein-Erik Fleten (Norwegian University of Science and Technology)

When Norway joined the Norwegian-Swedish market for tradable certificates on the 1st of January 2012, it put an end to 12 years of political debate on whether, how and when to subsidize renewable electricity production. Based on 214 licenses to construct small hydro power, we have analyzed how investors have responded to this political uncertainty. Did it result in postponement of profitable projects? Or, did investors trust political statements that investments made after 2004 would be entitled to future subsidies, if a scheme were introduced? Did different investor groups respond differently to this political uncertainty?

These problems are analyzed within a real option framework where political uncertainty is translated to investment risk. First, the net present value and the option value for each license and each year are estimated using the Least Square Monte Carlo (LSM) approach developed by Longstaff and Swartz (2001). Second, we use logistic regression analysis to test which of the two investment rules reflect actual investment behavior best: traditional net present value or real options investment rule. We found that (1) professional investors owning a portfolio of licenses acted in accordance with a real options investment rule, and uncertain climate policy decisions delayed their investment rate; and (2) investors owning a single license acted in accordance with a traditional net present value investment rule, focusing on the value of the immediate investment and ignoring policy uncertainty.

Discussant: Trond Erik Lunder

III E: Markets and learning

Room: T401

Session Chair: Knut Ingar Westeren

Market specific sunk export costs – learning and spillovers

Presenter: Per Botolf Maurseth (Norwegian Business School)

Co-author: Hege Medin (Norwegian Institute of International Affairs)

Firms may face substantial sunk cost when entering an export market. In addition there may be learning effects in the export activity: a firm may learn about exporting from own export experience in a particular market or from own export experience in other markets. We define a market as the market for a given product in a given country. Thus learning may occur from intramarket experience or from intermarket experience across products or countries. There may also be spillovers from other firms in the export countries, both within and between particular products. In the presence of sunk cost and learning, past export experience affects a firm's probability of exporting to a particular market and there will be persistence in export. While previous studies have focused on global or country specific sunk export costs, in this study we analyse the importance of market specific versus country specific sunk export costs. Some previous studies on sunk export costs and export persistence have also investigated spillovers from the presence of other firms in the home country. In this study we investigate spillovers from the presence other firms in the export markets. We use firm level panel data for Norwegian seafood exports distributed on products and countries. Results are in favour of market specific sunk costs, learning and spillovers.

Discussant: Knut Ingar Westeren

North-South technology transfer in unionized multinationals

Presenter: Kjell Erik Lommerud (University of Bergen)

Co-author: Frode Meland (University of Bergen), Odd Rune Straume (University of Minho)

We study how incentives for North-South technology transfers in multinational enterprises are affected by labour market institutions. If workers are collectively organised, incentives for technology transfers are partly governed by firms' desire to curb trade union power. This will affect not only the extent but also the type of technology transfer. While skill upgrading of southern workers benefits these workers at the expense of northern worker welfare, quality upgrading of products produced in the South may harm not only northern but also southern workers. A minimum wage policy to raise the wage levels of southern workers may spur technology transfer, possibly to the extent that the utility of northern workers decline. These conclusions are reached in a setting where a unionised multinational multiproduct firm produces two vertically differentiated products in northern and southern subsidiaries, respectively.

Discussant: Per Botolf Maurseth

Knowledge and competitive situation

Presenter: Knut Ingar Westeren (Nord-Trøndelag University College)

This paper builds on an ongoing project where we analyze the situation for the production of steel jackets for the offshore industry in peripheral Norway. In earlier papers we have presented results about innovations processes and how this can be linked to the creation and transfer of knowledge. This paper focuses on the competitive situation of the firm (Aker Verdal) and the importance of external factors like cluster participation compared to in-firm developments contribute to the firm competitive situation.

First the paper gives a discussion of theoretical developments of the concept of competitiveness and how important factors like knowledge and technology can contribute to a firm's development. Special attention is given to firms' abilities to improve competitiveness based on in-firm resources compared to participation in external networks and clusters. The role of knowledge transfers is focused within this framework.

The paper also includes an empirical analysis based on a data collection where we studied a Norwegian company producing steel structures for the offshore sector. In the data collection we have followed the company for 18 months and analyzed how one large project have influenced the competitive situation of the firm and from where (internal or external) the most important contributions came from.

Discussant: Kjell Erik Lommerud

IV A: Regulation and market structures

Room: TU01

Session chair: Rolf Brunstad

Market power in Norwegian electricity markets: Are the transmission bottlenecks truly exogenous?

Presenter: Olvar Bergland (Norwegian University of Life Sciences)

Co-author: Faisal Mehmood Mirza

In this paper, we test whether producers in southern Norway price area utilize information on available transmission capacity to induce transmission congestion in their area to exercise market power or not. Endogeneity results for the import congestion suggest that congestion is endogenous during late night and morning hours implying that producers in southern Norway restrict their output to induce transmission congestion into their price area. We find an average markup of about 20 percent above the marginal cost during these hours. The results suggest that NordPool's policy of making transmission capacity information public to ensure market transparency is not welfare maximizing as strategic producers can use this information to anticipate and induce transmission congestion into their price area for driving prices away from the competitive levels.

Discussant: Rolf Brunstad

Price and welfare effects of quota allocation

Presenter: Knut Einar Rosendahl (Statistics Norway)

Co-authors: Rolf Golombek, Sverre A.C. Kittelsen

We analyze how different ways of allocating emission quotas may influence the electricity market. Using a large-scale numerical model of the Western European energy market, we show that different allocation mechanisms can have very different effects on the electricity market, even if the total emission target is fixed. This is particularly the case if output-based allocation (OBA) of quotas is used. Gas power production is then substantially higher than if quotas are grandfathered. Moreover, the welfare costs of attaining a fixed emission target are significantly higher. The numerical results for OBA are supported by theoretical analysis, with some new results.

Discussant: Olvar Bergland

Optimal regulation in a taxi market in medium sized cities

Presenter: Rolf Jens Brunstad (Norwegian School of Economics)

Co-authors: Siri Pettersen Strandenes, Kurt Jørnsten

The taxi industry has historically been heavily regulated in most countries. Actual forms of regulation may be far from optimal, but the recent trend of deregulation in several countries have in many cases given increased instead of reduced fares and indicators of service quality show a mixed picture. In this paper we study optimal regulation in a highly simplified model of the taxi market. Optimal regulation implies regulating fares and leaving entry free, and the model predicts that complete deregulation will lead to increasing fares and excess capacity. However, these results rely heavily on several limiting assumptions, the key one being that there is a common dispatch central ore a pure cruising market. In such markets efficient price competition will not exist. To have price competition more than one dispatch central is required. In this case the conditions for Bertrand equilibrium might be met; provided there are no barriers to entry, no collusion and constant return to scale in the meeting function between vacant taxis and waiting customers. However, one would theoretically expect the meeting function to have increasing returns to scale. In that case free entry is not sufficient to yield the social optimum.

Discussant: Knut Einar Rosendahl

IV B: Taxes and employment

Room: T130

Session Chair: Erling Holmøy

Optimal participation taxes

Presenter: Vidar Christiansen (University of Oslo):

The literature on optimal labour income taxation is concerned with labour supply responses and distortions at the intensive margin (changes in labour supply among those working) and the extensive margin (the decision to participate in the labour market or not). This paper will revisit some key aspects of extensive response models in the spirit of Saez (2002). This strand of research has established a case for a larger transfer to the working poor than to the non-working and even poorer people, which implies that there is a negative marginal tax rate at the bottom. This paper elaborates on this result and seeks to achieve a deeper understanding of the conditions required for the result to be valid. I will argue that the result hinges crucially on the labour supply responses of people in income brackets above that of the working poor. Then distinguishing between more and less poor working people, I show that if a single working type faces a negative tax it is the poorer one. Starting out from the conventional assumption of exogenous wages, I then extend the analysis by endogenising wages and show that key conditions will be of the same form as before.

Another extension is to go from single individuals to couples, where alternative to participation in the labour market is either to share the income of the spouse or conceivably to receive a benefit from the government. The negative marginal income tax at the bottom is discussed within this context, and optimal income taxes are characterised under the assumption of separate filing. The role of own and cross labour supply elasticities (between spouses) is highlighted.

Discussant: Erling Holmøy

Cash-on-hand and the duration of job search: Quasi-experimental evidence from Norway

Presenter: Andreas Fagereng (European UI):

Co-authors: Christoph Basten (KOF Swiss Economic Institute, ETH Zurich), Kjetil Telle (Statistics Norway)

We investigate the causal effect of lump-sum severance payments on job search duration in Norway. Identification is achieved by exploiting discontinuities in the available amounts along the age and time dimensions. The results can be interpreted as evidence of liquidity constraints, thus suggesting that in the spirit of the Baily-Chetty model of Optimal Unemployment Insurance current benefits are too low. Since Norway has one of the most equitable wealth distributions and one of the most generous UI systems of all OECD economies, this suggests that liquidity constraints are likely to matter also in other OECD economies.

Discussant: Vidar Christiansen

The relationship between public and total employment: The importance of general equilibrium effects on non-labour income

Presenter: Erling Holmøy (Statistics Norway)

This paper analyses the general equilibrium relationship between increases in tax financed public employment and total employment, emphasizing one income effect: Since there are no profits in public sectors, reallocating employment from the private to the public sector reduces profits distributed to workers. This may cause a positive general equilibrium relationship between total employment and tax financed public employment, even if the uncompensated wage elasticity of labour supply is positive. Such a positive relationship is consistent with the stylized facts in generous welfare states such as Norway and Sweden.

Precise conditions for a positive general equilibrium relationship are derived within the simplest possible model. It is also shown that if such a positive relationship exists, it will be stronger the higher is public employment. This mechanism turns out to be crucial when explaining the employment effect of an increase in tax financed public employment generated by a realistic CGE model of the Norwegian economy.

Discussant: Andreas Fagereng

IV C: Bio and land economics

Room: T131

Session chair: Ole Henning Nyhus

Bioeconomic factors of natural resource transitions: The US sperm whale fishery of the 19th Century and the discovery of petroleum

Presenter: Brooks Kaiser (Southern Denmark University)

This paper uses bio-economic modeling to investigate the transition from whale oil (a renewable, exhaustible natural resource) to petroleum that occurred in the mid-19th century. The discovery of petroleum is often presented as a stochastic event that 'saved the whales'; we combine newer biological evidence (Whitehead, 2002) with economic theory of natural resources to address this long-standing controversy over whether sperm whale fishery dynamics would have been sufficient to preserve sperm whale populations without the discovery of petroleum (e.g. Davis et al, 1988; Maran, 1974; Shuster, 1973). We find that under most economic conditions the dynamics, even without a substitute, would have prevented extinction; this result is different than that usually determined for the better studied baleen whales, due in part to biological differences and in part to differences in their economic productivity as harvested resources. This paper is part of a larger project investigating the timing of resource transitions and how the increasing costs and demand for illuminants drove the search for substitutes and how successful drilling for petroleum presented the best substitute from an array of interdependently developing resources and technologies, cementing the decline of the US sperm whaling industry.

Discussant: Ole Henning Nyhus

Household welfare effects of low-cost land certification

Presenter : Stein Holden (Norwegian University of Life Sciences)

Co-author: Hosaena Ghebru

Several studies have shown that the land registration and certification reform in Ethiopia has been implemented with an impressive speed, at a low-cost and with significant impacts on investment, land productivity and land rental market activity. This study provides new evidence on land productivity changes on rented land and on the welfare effects of the reform drawing on a unique household panel covering the period up to eight years after implementation of the reform. We find that land productivity has increased more on rented out plots of female landlords after the reform as compared to male landlords indicating that particularly female landlords' land rights have been strengthened. Furthermore, real household consumption expenditures per adult equivalent have increased with the duration of ownership of land certificates for owners of such certificates and most significantly so for female owners of land certificates.

Discussant: Brooks Kaiser

Distributional implications of a municipal property tax

Presenter : Ole Henning Nyhus (Norwegian University of Science and Technology)

Co-author: Lars Erik Borge

Economists tend to consider the property tax as a good local tax because it is visible and has a relatively low mobility. Politically the property tax is more controversial, and one of the main concerns is the distributional impact. The purpose of this paper is to provide an empirical analysis of the distributional implications of the property tax. In Norway the property tax is a voluntary tax for the municipalities and applies to both residential and commercial property. The property tax has a flat tax rate, but for residential property a basic deduction can be applied. The size of the basic deduction is the main distributional mean under municipal control. Our focus is on the distributional impact of the residential property tax.

The empirical analysis utilizes data for a sample of 9 municipalities with recent reassessment of property values. The sample includes larger cities, regional centers, and small, rural communities. Within the sample there is substantial variation in the basic deduction. The data sets are constructed by merging information from municipal property tax registers and information on household characteristics from administrative registers in Statistics Norway. The distributional effects are assessed by calculating a Suits-index for each of the nine municipalities. There is substantial variation in the Suits-index across municipalities. The property tax comes as regressive in six municipalities, as roughly proportional in two municipalities, and as progressive in one municipality. It is a bit surprising that the municipality where the property tax is progressive has no basic deduction. This finding reflects that the distributional implications are largely determined by the underlying distribution of property values.

Discussant: Stein Holden

IV D: Distribution and production

Room: T230

Session Chair: Terje Andreas Mathiesen

Myopic preferences or subsistence income? Why do the poor rent rickshaws?

Presenter: Magnus Hatlebakk (Christian Michelsen Institute)

Two years rent is sufficient to buy a rickshaw in the plains of Nepal. The rickshaw may last 15 years, so purchase appears very profitable. Still many cyclists rent the rickshaw, and we investigate why? This is a classical question in development economics, are the poor short-sighted, or are they poor because they are poor? We keep to classical consumption theory and frame hypothetical choices between loans and savings programs in an attempt to separate rickshaw cyclists with high pure time preference rates (myopic preferences) from rickshaw cyclists with a high elasticity of the marginal utility of consumption. We have discussed elsewhere how the elasticity of the marginal utility of consumption is likely to increase as the permanently sustainable consumption level declines towards a subsistence level, which thus also defines the subsistence level as households will not consume below this level today to be able to consume more in the future.

Discussant: Terje Andreas Mathiesen

Too poor to invest? Caste and investment in land

Presenter: Jeetendra Prakash Aryal (Norwegian University of Life Sciences)

Co-author: Stein Holden

This paper assesses whether low-caste households in Nepal are too poor to invest in land. For this, we examine adoptions and levels of fertilizer use, manure use, and land conservation investment as well as the intensity of production. The results show that low-caste households are not too poor to invest. On the contrary, they are more likely to use manure and have higher cropping intensity as compared to high-caste households. However, they are less likely to use fertilizer and there is no difference in their level of investment in conservation. Own land holding is found to affect both adoption and level of fertilizer use positively while this was negative in the case of manure, conservation investment and intensity of production. Access to off-farm employment is found to lower the likelihood to apply manure. Male headship is found to have positive association with manure application and conservation investment.

Discussant: Magnus Hatlebakk

Equilibrium fares and quantities for transport firms with several goals and operating under different competitive situations

Presenter: Terje Andreas Mathiesen (University of Nordland)

Co-author: Finn Jørgensen (University of Nordland)

The paper addresses a transport market with two firms that have goals that extend beyond profit maximization. Specifically, we assume that the firms either maximize a weighted sum of profit and the number of passengers transported, profit and revenue and profit and consumer surplus. These three goal functions are relevant for firms operating in the passenger transport industry due to the presence of local public stakeholders such as municipalities and counties and the separation of ownership and leadership. The number of passenger transported is an objective that relates to the inclination of owners with local attachment to provide better transport services since it concern themselves. Revenue is an objective that relates to the desire of the managers to increase their power by leading a larger company. Finally, consumer surplus is an important objective both for public owners and for the managers of the transport firms.

The paper analyses equilibrium fares and quantities that arise from Collusion, Cournot and Bertrand competition when the firms produce symmetrically differentiable services and have identical cost and goal functions. It then proceeds by analyzing how the degree of complementarity and substitutability between the firms' services and their common goal functions influence equilibrium solutions. The influence of parameters included in the model on the differences between the equilibriums will also be addressed. The study provides relevant knowledge for transport authorities about how transport firms will respond to changes in competitive regimes depending on their objectives and competitive situation.

Discussant: Jeetendra Prakash Aryal

IV E: Selection and estimation issues

Room: T401

Session Chair: Ståle Navrud

The ensemble Kalman filter

Presenter: Sturla Kvamsdal (Norwegian School of Economics)

The ensemble Kalman filter extends the classical Kalman filter to a large class of nonlinear models. The method is popular in meteorology, oceanography, and other sciences which are concerned with chaotic systems. An advantage with the ensemble Kalman filter compared to alternatives like the extended Kalman filter, is that it avoids linearization and closure assumptions. The idea is to simulate the time development of a cloud of points in the state space, and in the standard model, the only approximation is the limited number of points in the cloud. Other key advantages are a sequential structure and numerical efficiency. We believe the method can be successfully applied to problems in economics. We make account of the theoretical foundation of the filter and its relationship with the classical Kalman filter. Finally, we generate data and demonstrate the use of the filter.

Discussant: Ståle Navrud

Financial Density Selection

Presenter: Genaro Sucarrat (Norwegian Business School)

Co-author: Miguel Marin

We propose and study simple but flexible methods for density selection of skewed versions of the two most popular density classes in finance, the exponential power distribution and the t distribution. For the first type of method, which simply consists of selecting a density by means of an information criterion, the Schwarz criterion stands out since it performs well across density categories, and in particular when the Data Generating Process is normal. For the second type of method, General-to-Specific density selection, the simulations suggest that it can improve the recovery rate in predictable ways by changing the significance level. This is useful because it enables us to increase (reduce) the recovery rate of non-normal densities by increasing (reducing) the significance level, if one wishes to do so. The third type of method is a generalisation of the second type, such that it can be applied across an arbitrary number of density classes, nested or non-nested. Finally, the methods are illustrated in an empirical application.

Discussant: Sturla Kvamsdal

Using Internet in stated preference surveys: A review and comparison of survey modes

Presenter: Ståle Navrud (Norwegian University of Life Sciences)

Co-author: Henrik Lindhjem

Internet is quickly becoming the survey mode of choice for stated preference (SP) surveys in environmental economics. However, this choice is being made with relatively little consideration of its potential influence on survey results. This paper reviews the theory and emerging evidence of mode effects in the survey methodology and SP literatures, summarizes the findings, and points out implications for Internet SP practice and research. The SP studies that compare Internet with other modes do generally not find substantial difference. The majority of welfare estimates are equal; or somewhat lower for the Internet surveys. Further, there is no clear evidence of substantially lower quality or validity of Internet responses. However, the degree of experimental control is often low in comparative studies across survey modes, and they often confound measurement and sample composition effects.

Internet offers a huge potential for experimentation and innovation in SP research, but when used to derive reliable welfare estimates for policy assessment, issues like representation and non-response bias for different Internet panels should receive more attention.

Discussant: Genaro Sucarrat

