

19004

Jan Philipp Paeslack/Daniel Cracau

[Wash and Waste? The Case of Unwashed Potatoes in Germany](#)

Abstract:

In the recent food waste debate, potatoes represent an important factor with approximately half of the production being removed from the food supply chain. Because selling unwashed potatoes is known as a potential remedy to address this phenomenon, the present article investigates this case in detail. Focusing on the consumer perspective, a survey with a total of 307 participants has been conducted in Germany. The results reveal that information on the underlying benefits may positively influence consumers' attitude towards unwashed potatoes. Positive attitudes towards the environment, suboptimal products in general and food loss avoidance significantly drive consumers' willingness to buy unwashed potatoes; the main factor for reluctance is the perceived inconvenience regarding preparation. Finally, a gender effect is observed with a discount being more effective for male consumers.

JEL:

Q18; D12

Keywords:

Food Waste Reduction; Unwashed Potatoes; Germany; Empirical Study

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19003

Hendrik Ritter/Karl Zimmermann

[Cap-and-Trade Policy vs. Carbon Taxation: Of Leakage and Linkage](#)

Abstract:

We assess a 2-period, non-cooperative equilibrium of an  $n$  country policy game where countries chose either (i) carbon taxes, (ii) cap-and-trade policy with local permit markets or (iii) cap-and-trade policy with internationally linked permit markets and potential central redistribution of permit revenues. Policy makers maximize welfare, which depends on household consumption over time and environmental damage from period-1 resource use. We assume

costless and complete extraction of this non-renewable resource, so damage only depends on speed of extraction. Tax policy is the least efficient option due to carbon leakage, which introduces a second externality adding to the environmental externality. Cap-and-trade policy does not show any leakage since all symmetric countries will employ caps. Its equilibrium thus only suffers from the environmental externality and welfare is higher than under carbon taxation. The policy scenario with linked permit markets and central redistribution yields an efficient outcome. The redistribution of revenues creates a negative externality which offsets the positive environmental externality.

JEL: H23, Q38, Q54, Q58

Keywords: Climate Policy, Carbon Tax, Cap-and-Trade Policy, Linked Permit Markets

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19002

**Michael Redmond/Ann Melissa Campbell/Jan Fabian Ehmke**

[Data-Driven Planning of Reliable Itineraries in Multi-Modal Transit Networks](#)

Abstract:

Multi-modal travel itineraries are based on traversing multiple legs using more than one mode of transportation. The more combinations of legs and modes, the more challenging it is for a traveler to identify a reliable itinerary. Transportation providers collect data that can increase transparency for reliable travel planning. However, this data has not been fully exploited yet, although it will likely form an important piece of future traveler information systems. Our paper takes an important step in this direction by analyzing and aggregating data from the operation of scheduled and unscheduled modes to create a reliability measure for multi-modal travel. We use a network search algorithm to evaluate itineraries that combine schedule-based long-distance travel with airlines with last-mile and first-mile drive times to efficiently identify the one with the highest reliability given a start time and travel time budget. Our network search considers multiple origin and destination airports which impacts the first and last mile as well as the flight options. We use extensive historical datasets to create reliable itineraries and compare these with deterministic shortest travel time itineraries. We investigate the amount of data that is required to create reliable multi-modal travel itineraries. Additionally, we highlight the benefits

and costs of reliable travel itineraries and analyze their structure.

JEL:

Keywords: Stochastic network search, Travel reliability, Multi-modal Schedule-based, Travel time distributions

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19001

Rainer Kleber/Joao Quariguasi Frota Neto/Marc Reimann

[Proprietary Parts as a Secondary Market Strategy](#)

Abstract:

Introducing proprietary parts to gain a competitive edge is a well-known, yet poorly understood strategy original equipment manufacturers (OEMs) adopt. In this paper, we consider an OEM which sells new products and competes with an independent remanufacturer (IR) selling remanufactured products. The OEM considers using proprietary parts to manage the secondary market for remanufactured products. Thereby, the OEM designs its product to balance the trade-off between the cost of proprietariness and the extra income from selling the proprietary parts to the IR. We observe that the OEM always chooses the smallest possible proportion of proprietary parts. This allows it to control the secondary market without the need to overly adjust the price charged for new products. Deterring market entry by the IR by pricing the proprietary parts prohibitively, an OEM strategy observed in several industries, is only optimal when the willingness-to-pay for remanufactured products is low. Otherwise, the OEM benefits more from sharing the secondary market products with the IR through the use of proprietary parts. Finally, we find that the OEM can also use proprietary parts to strategically deter entry by the IR and discourage it from collecting the cores. This can support the OEM's decision to engage in remanufacturing even in the case of a collection cost disadvantage. We show that - counterintuitively - the OEM may take up remanufacturing in situations where the IR would not. While the introduction of proprietary parts is detrimental to both IRs and consumers, OEM remanufacturing softens this loss for the consumers.

JEL:

Keywords:

Proprietary parts, product remanufacturing, closed-loop supply chains

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