

FEMM - Working Paper Series - 2003

03025

Iryna Akimova, Gerhard Schwödiauer:
Trust in Commercial Courts and Its Effect on the Performance of Ukrainian SMEs

Abstract:

A set of data from a survey of 285 small and medium-sized manufacturing enterprises from the three regions of Ukraine with the highest concentration of SMEs is used to study the determinants of trust in the contract-enforcing powers of commercial courts and its impact on the performance of firms. It is found that trust in courts has a significantly positive impact on the performance as measured by growth in sales and labor productivity. Several determinants of trust in courts are identified: entrepreneurs' experience of direct administrative corruption in the form of monetary bribes, informal relations between businessmen and public officials based on mutual trust, and perceptions of the general business environment. There is, moreover, a significant learning effect: Businessmen with positive experience with commercial courts are more trustful than their inexperienced fellow managers. When testing for direct effects of corruption, informal relations, quality of business environment and past experience with courts on performance no significant quantitative relationships are detectable. This is evidence in favor of the basic hypothesis that these institutional factors influence the performance of SMEs indirectly via their impact on the entrepreneurs' belief in the ability of the legal system to protect their property rights.

JEL:

Keywords:

03024

Philipp J. Reiß:
Dabei sein ist nicht alles! Feldexperimentelle Ergebnisse einer Multi-Objekt-Multi-Einheiten-Auktion
[Auctioning Exhibition Spaces - A Field Experiment at the VfS Annual Conference 2001]

Abstract:

Alle Ausstellerflächen für Verlage und Wirtschaftsforschungsinstitute anlässlich der Jahrestagung des Vereins für Socialpolitik in 2001 wurden per Auktion vergeben. Im Papier werden die Motivation für dieses Feldexperiment, das verwendete Auktionsdesign und die resultierenden Ergebnisse dargelegt. Darüber hinaus wird der Versuch unternommen, den Effizienzgrad der entstandenen Allokation zu quantifizieren und sie im Licht der Alternativen und der Resultate aus dem Vorjahr zu bewerten.

[All physical displays used for exhibitions by publishers and research institutes during the Annual Congress 2001 of the Verein für Socialpolitik (leading association of German speaking economists) were auctioned off. The paper considers the motivation for this field experiment, describes the employed auction design, and summarizes its outcome. In addition, the paper attempts to quantify the degree of efficiency of the implemented allocation and compares it with feasible alternative allocations and evaluates the auction outcome with the results obtained from the exhibition at the preceding Annual Congress 2000.]

JEL:

Keywords:

03023

Jannette Brosig, Philipp J. Reiß:

Entry Decisions and Bidding Behavior in Sequential First-Price Procurement Auctions: An Experimental Study

Abstract:

Though many real life auctions are run independently of each other, from the bidders' point of view they often form sequences of auctions. We investigate experimentally how behavior responds to the additional incentives that are present in such auction sequences. Comparing subjects' decisions in single first-price procurement auctions with their decisions in a game consisting of two subsequent first-price procurement auctions, we find that, in line with the theoretical prediction, entry and bidding behavior is crucially affected by the opportunity cost of early bid submission. Though, entry decisions and average bids in the auction sequence deviate from the perfect Bayesian equilibrium prediction. While the nature of the opponent (human being or computer) has no significant effect on these findings, giving subjects additional feedback on winners and prices seems to reduce the deviations from the equilibrium prediction.

JEL:

C72, C91, D44

Keywords:

experimental economics, sequential auction, first-price procurement auction

03022

Iryna Akimova, Gerhard Schwödiauer:

Ownership Structure, Corporate Governance and Enterprise Performance: Empirical Results for Ukraine

The paper examines empirically the effect of ownership structure on corporate governance and performance of privatized enterprises in transition. The data are taken from a survey conducted in 2001 on 202 medium-sized and large firms in Ukraine for the period 1998 - 2000. The ownership structure is measured by the percentage of shares held by each type of owner (state, managers, worker, Ukrainian concentrated outsiders, foreign concentrated owners, stake-holding shareholders), performance is measured by sales per employee. Regression analysis is used to test the hypothesis that concentrated outside ownership influences performance positively and to detect non-linear effects of ownership variables on performance.

Abstract:

In contrast with important previous studies on enterprise restructuring in Ukraine (e. g., Estrin and Rosevier, European Economic Rev. 43, 1999) we find significant ownership effects on performance. Insider ownership (being a special case of stakeholding ownership) is found to have a significantly non-linear effect on performance - positive within a lower range, but negative from a threshold close to majority ownership onwards. Ukrainian outside owners in general do not have a significant effect on performance, stakeholding ownership by customers, however, affect sales prices and performance negatively. The most robust results are obtained for the effects of concentrated foreign ownership, both for levels of the respective variables in each year and for changes from one year to the other. The impact of foreign ownership on performance is significantly non-linear: Its effect is positive only up to a level that falls short of majority ownership. We conclude that this non-linearity is due to an institutional environment still adverse to foreign direct investment.

JEL:

P31, L33, G30

Keywords:

Ukraine, transition, privatization, governance

03021

Gangolf Groh:

Zu den Wirkungen einer Greencard-Regelung bei kreditrationierten Haushalten

Abstract:

Im folgenden sollen Auswirkungen der internationalen Mobilität hochqualifizierter Fachkräfte, die sich aus einer Greencard-Regelung seitens der Industrieländer ergeben können, vor dem Hintergrund einer Kreditrestriktion für private Haushalte analysiert werden. Dabei stehen neben den resultierenden Qualifikationsanreizen insbesondere die Konsequenzen für die Entsenderländer, die häufig mit dem Begriff des "brain drain" umschrieben werden, im Mittelpunkt. Als Grundlage hierzu dient ein Zwei-Länder-OLG-Modell mit endogener Qualifikationsentscheidung sowie einem Vererbungsmotiv. Es zeigt sich, dass unter bestimmten Bedingungen die Normalqualifizierten im (hochproduktiven) Industrieland und die Hochqualifizierten im Entsenderland (mit entsprechender geringerer Produktivität) auch im

langfristigen Gleichgewicht von obiger Regelung profitieren, wohingegen die entsprechend komplementären Gruppen Wohlfahrtseinbußen hinnehmen müsse.

JEL:

Keywords: Brain Drain, Kreditrationierung, Vermögensverteilung

03020

Karl Inderfurth:

Analytical Solution for a Single-period Production-Inventory Problem with Uniformly Distributed Yield and Demand

Abstract:

The problem of determining the optimal production policy is addressed for a single-period production-inventory problem when both demand and production yield are stochastic. For uniformly distributed demand and yield the optimal policy is derived analytically. It is shown that, in contrast to that which is stated in literature, this policy can be of a non-linear type. Managerial aspects regarding this policy property are also discussed.

JEL:

Keywords: Inventory Control, Production Policy, Stochastic Yield

03019

Ulf Rosner, Joachim Weimann:

Die ökonomischen Effekte der Hochschulausgaben des Landes Sachsen-Anhalt - Teil 2: Fiskalische, Humankapital- und Kapazitätseffekte der Otto-von-Guericke-Universität Magdeburg und der Hochschule Magdeburg-Stendal (FH)

Abstract:

Die Untersuchung analysiert, in welchem Umfang und auf welchen Wegen der Wissens- und Humankapitaltransfer durch die Otto-von-Guericke-Universität Magdeburg und die Hochschule Magdeburg-Stendal (FH) in die Wirtschaft Sachsen-Anhalts stattfindet. Ausgehend von der wirtschaftlichen Ausgangslage des Landes wird auf Grundlage ausführlicher empirischer Befragungen aufgezeigt, mit welchen Maßnahmen die regionalökonomische Wirksamkeit der Hochschulen verbessert werden kann. Ergänzend werden fiskalische Einnahmeeffekte der Hochschulen für den Landeshaushalt berechnet, die sich über den Länderfinanzausgleich ergeben und über die Fähigkeit der Hochschulen, Menschen in die Region zu ziehen.

JEL:

Keywords:

03018

Stefan Felder Mathias Kifmann:

Kurz- und langfristige Folgen einer Bürgerversicherung

Abstract:

Wir untersuchen anhand des Konzepts der impliziten Besteuerung, wie eine Ausweitung der gesetzlichen Krankenversicherung auf die gesamte Bevölkerung im Sinne einer Bürgerversicherung die unterschiedlichen Generationen betrifft. Die Einführung einer Bürgerversicherung innerhalb des lohnbezogenen Umlageverfahrens entlastet zwar die heute lebenden alten Generationen, stellt jedoch später geborene Generationen schlechter. Ein umlagefinanziertes Kopfprämienystem könnte hingegen die junge Generation potenziell entlasten. Mit einer Kapitalbildung im Rahmen der erweiterten GKV lässt sich in jedem Fall eine langfristige Belastung vermeiden. Dabei ist ein vollständiger Übergang auf das Kapitaldeckungsverfahren nicht nötig. Im Gegenteil, bei einem vollständigen Verzicht auf das Umlageverfahren werden die Übergangsgenerationen zusätzlich belastet. Eine intergenerativ verteilungsneutrale Ausweitung des GKV-Versichertenkreises lässt sich auch über eine Altersdifferenzierung der Beitragssätze erreichen. In diesem Fall erfolgt die Kapitalbildung privat und wird für höhere Beiträge im Alter verwendet.

JEL:

Keywords:

03017

Stefan Felder:
Third-degree price discrimination and moral hazard

Abstract:

Literature on monopolistic third-degree price discrimination stresses that discriminatory pricing only lead to a welfare gain if total output increases. In many circumstances, this will not occur. Thus, uniform pricing has some appeal from a welfare point of view. In this paper, I analyze whether the welfare comparison of different price regimes changes if moral hazard is taken into account. I show that this, indeed, is the case. If goods are subsidized, it is possible that welfare under third-degree price discrimination is above welfare under uniform pricing, even though output has not increased. The finding of this paper appears to be relevant for the pharmaceutical market for two reasons. First, monopolistic pricing is important in this market, as production requires prices above marginal costs to cover the costs of R&D. Second, pharmaceutical markets are subject to moral hazard since consumers due to insurance coverage only pay a fraction of the actual price.

JEL:

Keywords:

03016

Bodo Sturm, Joachim Weimann:
Unilateral Emissions Abatement: An Experiment

Abstract:

According to the model of HOEL (1991), a unilateral emissions abatement of a global pollutant leads to lower aggregated emissions in a game with a simultaneous decision protocol. Our experiment tests the Hoel model and examines the question of whether a leader can induce additional abatement of follower: in a game with a mixed sequential-simultaneous decision protocol. Using an environment with a unique interior equilibrium, our experiments confirm the stylized outcomes of previous public good experiments. Changes in abatement and profits for the simultaneous decision protocol are in line with the theoretical predictions of the Hoel model albeit not significantly in every case. In the treatments with a mixed sequential-simultaneous decision protocol, during the first periods an abatement near social optimum is mostly chosen by the leader. However, in most cases the leader failed to induce cooperation, i.e. there are few followers who react cooperatively to the leader's signal. High efforts by the leader and the cooperative followers are exploited by the majority of defective followers.

JEL:

Keywords:

03015

Alfred Luhmer:
Investing in the Agent's Productivity

Abstract:

A principal-agent problem of the hidden-effort variety is studied in which the productive outcome is specified as the product of two control variables, effort and productivity. Productivity is determined by investments in the productive system on which the agent brings to bear his effort. Three situations are compared: in the first one not only gross output of the agency is assumed contractible but also the productivity-enhancing investment. In the second situation the agent decides on how to equip himself while the principal sees only the outcome net of the productivity-enhancing cost. In the third situation an additional agent takes care of productivity. The model is of the LEN type but with logarithmic cost functions instead of the common quadratic specification. Quadratic cost functions together with the multiplicative specification of productive output would not allow for well-defined optimization problems.

JEL:

Keywords:

Agency theory, incentive intensity, LEN model, logarithmic cost functions, multi-task, multi-agent, double marginalization

03014 Jens Robert Schöndube:
Performancemessung und Informationsgehalt in einer Agency-Beziehung mit beschränkter Selbstbindungskraft

Abstract: Dieser Beitrag betrachtet eine zweiperiodige Agency-Beziehung mit beschränkter Selbstbindungskraft. Ausgehend vom renegotiation-proof-Prinzip werden Eigenschaften von Performancemaßen charakterisiert, so dass trotz Nachverhandlungsoption des Prinzipals die ex ante effiziente Allokation erzielt wird. Aufbauend auf dieser Analyse werden Informationssysteme des Rechnungswesen im Hinblick auf ihre Steuerung des Agency-Problems verglichen. Abschließend wird gezeigt, dass es unter Berücksichtigung beschränkter Selbstbindungskraft optimal sein kann, den Agenten mit unproduktiven Aufgaben zu betrauen (wie z.B. realer Bilanzpolitik).

JEL:

Keywords: Beschränkte Selbstbindungskraft, Performancemessung, Informationsgehalt

03013 Joachim Weimann, Thomas Riechmann:
On the Role of Role Reversal - Remarks on Charness and Rabin

Abstract: The short paper is a comment on some recent work by Charness and Rabin (Quarterly Journal of Economics, Vol 117, 2002), who intend to gain insight into the structure of individual preferences by using 'simple' experimental games. In the course of their experiments, Charness and Rabin use an experimental technique called 'role reversal' in order to increase the number of their laboratory observations. They claim that the use of this technique does not influence the nature of their experimental results. We present results of a series of experiments conducted in the Magdeburg laboratory (MaxLab) in order to find out whether this claim of Charness and Rabin is correct. Our results give clear evidence that indeed Charness and Rabin are mistaken. Because of role reversal, participant seem to believe they are playing a game very different from the 'simple' games Charness and Rabin want them to play. Consequently, Charness and Rabin analyze a game different from the on their participants were apparently playing. This means that the analysis by Charness and Rabin, though important and interesting, has to be treated and understood with the greatest of caution and care.

JEL: C91

Keywords: Experimental Economics, Role Reversal

03012 Ulf Rosner, Joachim Weimann:
Die ökonomischen Effekte der Hochschulausgaben des Landes Sachsen-Anhalt (Teil 1)

Abstract: Durch die Existenz von Hochschulen kommt es zu realen Ressourcenzuflüssen in die sie umgebenden Regionen. Wir zeigen am Beispiel der Otto-von-Guericke-Universität Magdeburg und der Hochschule Magdeburg-Stendal (FH), dass die Nachfrageeffekte aufgrund der monetären Zuflüsse deutlich größer sind als die Aufwendungen des Landes für den Unterhalt der Hochschulen. Außerdem erhöhen die Mittelzuflüsse die Beschäftigung in Sachsen-Anhalt um ca. 2000 Arbeitsplätze, zusätzlich zu den rund 1700 direkt Beschäftigten der Hochschulen. Damit sind Hochschulen auch aus arbeitsmarktpolitischer Sicht besonders wirksam.

JEL:

Keywords:

03011 Ian M. Langella:
Heuristics for demand-driven disassembly planning

Abstract: Remanufacturing of used products has become accepted as an advantageous disposition option within

the field of reverse logistics. Remanufacturing, where a firm takes returned products at the end of their life and disassembles them to obtain parts which are reassembled into "good as new" products, may require so called demand-driven-disassembly, where a specific amount of returned products must be disassembled to yield parts which are either demanded externally, or used in the remanufacturing operation. While in its simplest form, the solution can be merely calculated, more realistically complex product structures require a more powerful solution method. The first choice, Integer Programming (IP) can be used to arrive at an optimal solution (see e.g. Lambert and Gupta, 2002), with the disadvantage that the time required to solve the problem explodes with increasingly complex product structures and longer time horizons. Another possible method, heuristics which were presented in a previous work on this problem (see Taleb and Gupta, 1997), offer a faster, easier solution with the disadvantage that it is not necessary optimal, and under certain circumstances may deliver an infeasible result. In this work, this problem was corrected and the heuristic was extended in several important ways to deal with holding costs and external procurement of items. The methodology is illustrated by an example, which arrives at costs close to the optimum. Another advantage of the heuristic is that it can be programmed into code and executed via spreadsheet application, which will facilitate its application. Future research will focus on extending the heuristic further and conducting in-depth performance studies.

JEL:

Keywords: Disassembly planning, reverse logistics, demand-driven-disassembly, heuristics

03010 Bodo Sturm, Joachim Weimann:
Experiments in Environmental Economics - a Survey

Abstract:

Laboratory experiments provide economic science with a universal method which can be employed to tackle a great array of problems. In this article we identify three direct connecting factors for the experimental method and environmental economics. First, social dilemmas are, in many cases, at the core of environmental problems: environmental services are often public goods or can be characterized as common pool resources. Experiments are able to test theoretical hypothesis for individual behavior in such social dilemma situations and generate stylized facts of individual behavior. The second connecting factor comes from the field of applied experimental work and can be characterized as the testbedding of institutional arrangements for the solution of environmental problems. The last direct application of experimental methods to environmental economics concerns the individual evaluation of environmental resources. But it is not only the great number of papers written on environmental economics that make it worth dealing with this special branch of experimental research. Rather, the environmental problem in its facets seems to serve as a catalyst which helps to identify some methodological problems of the experimental method. For this reason, we will not only try to give an overview of the recent experiments in environmental economics but also will add some thoughts on the methodological implications of this work.

JEL:

Keywords:

03009 Ulf Rosner, Joachim Weimann, Hagen Findeis, Harald Simons:
Die ökonomischen Effekte der Hochschulförderung des Landes Sachsen-Anhalt - Teil 1: Direkte Monetäre Effekte der Otto-von-Guericke-Universität Magdeburg und der Hochschule Magdeburg-Stendal (FH)

Abstract:

Durch die Existenz von Hochschulen kommt es zu realen Ressourcenzuflüssen in die sie umgebenden Regionen. Wir zeigen am Beispiel der Otto-von-Guericke-Universität Magdeburg und der Hochschule Magdeburg-Stendal (FH), dass die Nachfrageeffekte aufgrund der monetären Zuflüsse deutlich größer sind als die Aufwendungen des Landes für den Unterhalt der Hochschulen. Außerdem erhöhen die Mittelzuflüsse die Beschäftigung in Sachsen-Anhalt um ca. 2000 Arbeitsplätze, zusätzlich zu den rund 1700 direkt Beschäftigten der Hochschulen. Damit sind Hochschulen auch aus arbeitsmarktpolitischer Sicht besonders wirksam.

JEL:

Keywords:

03008

Doreen Meißner, Gerhard Wäscher:

Reif für das virtuelle Unternehmen? - Ergebnisse einer Befragung von kleinen und mittleren Logistikunternehmen in Sachsen-Anhalt

Abstract:

Die Kooperationsform des virtuellen Unternehmens wird einerseits als geeignet angesehen, um kleine und mittlere Logistikunternehmen in die Lage zu versetzen, Wettbewerbsvorteile gegenüber großen Logistikunternehmen realisieren zu können. Andererseits lässt sich das aber nur realisieren, wenn die kleinen und mittleren Logistikunternehmen bestimmte Voraussetzungen in Bezug auf die Kooperationsfähigkeit und die Kooperationsbereitschaft erfüllen. Mit Hilfe einer schriftlichen Befragung der Logistikunternehmen Sachsens-Anhalts wird überprüft, ob diese Voraussetzungen von den kleinen und mittleren Logistikunternehmen erfüllt werden und welche Defizite in dieser Hinsicht bestehen. Die Kooperationsfähigkeit erstreckt sich auf technische, personelle und organisatorische Voraussetzungen. Im Rahmen der Kooperationsbereitschaft stehen u. a. bereits vorhandene Kooperationen mit anderen Logistikunternehmen und die Bereitschaft zur Kooperation in virtuellen Unternehmen sowie gegebenenfalls bestehende Kooperationshindernisse im Vordergrund. Obwohl überraschend viele der befragten kleinen und mittleren Logistikunternehmen im Rahmen von virtuellen Unternehmen kooperieren würden, erfüllen nur sehr wenige dieser Unternehmen alle zwingenden Voraussetzungen zur Teilnahme an dieser Kooperationsform.

JEL:

Keywords:

03007

Ronnie Schöb:

Workfare and Trade Unions: Labor Market Repercussions of Welfare Reform

Abstract:

Workfare proposals concentrate on the work incentives for welfare recipients, thus focusing on the labor supply side. This paper analyzes the effects workfare has on labor demand when the labor market is unionized. As workfare reduces the number of recipients of public financial assistance, a workfare regime, as opposed to a welfare system, weakens the outside option of trade unions in wage negotiations. It is shown that revenue-neutral workfare enforcement where any surpluses are rebated by i) reducing the income tax or ii) increasing a workers' tax credit, unambiguously decreases gross wage rates and thus decreases equilibrium unemployment. Though trade union members may be worse off as a consequence of workfare enforcement, their compensation for the wage reduction is highest when the revenue-neutral rebate of savings is used to increase worker-specific tax credits.

JEL:

E60, H53, J51

Keywords:

workfare, welfare reform, trade unions, involuntary unemployment

03006

Stefan Felder:

Kapitaldeckung in der gesetzlichen Krankenversicherung über den Risikostrukturausgleich

Abstract:

Die aktuelle Finanzierungsform der gesetzlichen Krankenversicherung (GKV) Deutschlands über Lohnbeiträge und Umlageverfahren ist demographieanfällig und erschwert die Erweiterung des Versichertenkreises. Viele fordern daher die hohen Gesundheitsausgaben im Alter wie in der privaten Krankenversicherung über eine Kapitaldeckung zu finanzieren. Dieser Aufsatz zeigt die Vorteile eines zentralen Vermögensfonds im Risikostrukturausgleich (RSA) für eine umfassend oder teilweise kapitalgedeckte GKV auf. Ein zentraler Fonds löst das Problem der Portabilität von Anwartschaften bei der Kapitaldeckung und erfordert keine Anpassung des bestehenden RSAs. Zudem ergeben sich Vorteile bei der Implementierung einer kapitalgedeckten GKV und der Erweiterung des GKV-Versichertenkreises sowie für den Kassenwettbewerb.

JEL:

Keywords:

03005

Bodo Sturm:

Das EU-Emissionsrechtssystem: Darstellung zentraler Elemente und kritische Diskussion

Abstract:

Die EU plant ab 2005 die Einführung eines Systems handelbarer Emissionsrechte für Treibhausgase mit dem Ziel, die im Rahmen des Kyoto-Protokolls vereinbarte Emissionsreduktion möglichst kostengünstig zu erreichen. Der Artikel stellt unter Berücksichtigung der institutionellen Rahmenbedingungen die wesentlichen Elemente des geplanten EU-Emissionsrechtssystems vor und diskutiert ausgewählte Effizienz- und Verteilungsaspekte. Entscheidend für die Allokationseffizienz als dem zentralen Bewertungsmaßstab der Analyse ist dabei insbesondere die Einbindung der flexiblen Mechanismen des Kyoto-Protokolls in das Emissionsrechtssystem und die Vermeidung von Regulierungsüberlagerungen mit bestehenden umweltpolitischen Instrumenten. Ein Verteilungsproblem ergibt sich aus der in der Kompetenz der einzelnen Mitgliedstaaten liegenden Gestaltung eines nationalen Zuteilungsplans für die Anfangsverteilung der Emissionsrechte, der für Deutschland auf Grund der spezifischen Situation in der neuen Bundesländern die Interessen dieser Region besonders berücksichtigen sollte.

JEL:

Keywords:

03004

Ronnie Schöb:

The Double Dividend Hypothesis of Environmental Taxes: A Survey

Abstract:

JEL:

Keywords:

03003

Christian Lukas:

Executive Pay: Prior Successes and Future Incentives

Abstract:

Executive compensation has become a field of intense (agency-)theoretical and empirical research. A theoretically rather unexplored area is the absolute level of pay and what accounts for differences in absolute pay. In this paper a two-period agency model is developed to determine a pay structure that provides incentives for managerial effort and uses informative signals about the agent's ability. The resulting pay structure does not always award the most successful agent with the highest pay. A more risky distribution of the agent's ability generates a less costly information system.

JEL:

Keywords:

executive compensation, incentives, absolute pay, ability, strategic complements

03002

Bertrand Koebel:

Searching for functional structure in multi-output multi-skill technologies

Abstract:

In order to represent a bunch of inputs and outputs by some aggregate measure, a production's unit technology must typically satisfy some restrictive conditions, some of them being well known in the literature. This paper presents some new results for aggregating labour inputs and outputs, in terms of restriction on elasticities of scale and substitution. These conditions are then empirically investigated, in a framework that is flexible and does not lose its flexibility after separability being imposed. The empirical findings of the exact approach to aggregation are found to be rather pessimistic on the possibility to provide a simplified representation.

JEL:	C33, D24, E10, J23, L60
Keywords:	aggregation, separability, flexibility, exports, labour demand, Box-Cox, system serial correlation
03001	Karl Inderfurth, Gerd Lindner, Nikos P. Rahaniotis: Lotsizing in a Production System with Rework and Product Deterioration
Abstract:	Producing new or recovering defective products often takes place on a common facility, with these activities carried out in lots. Consequently, there is a necessity to coordinate the production and rework activities with respect to the timing of operations and also regarding appropriate lot sizes for both processes while completely satisfying a given demand. Thereby, it has to be taken into account whether the state of defective items that await rework worsens (deteriorates, i.e. the rework time and rework cost increase) in the course of time or not. In this paper an EPQ model which addresses all of these aspects is presented. Considering set-up and inventory holding costs as well as set-up times, optimization algorithms are developed covering different planning situations.
JEL:	
Keywords:	

FEMM Working Paper Series

- ▶ 2024
- ▶ 2023
- ▶ 2022
- ▶ 2021
- ▶ 2020
- ▶ 2019
- ▶ 2018
- ▶ 2017
- ▶ 2016
- ▶ 2015
- ▶ 2014
- ▶ 2013
- ▶ 2012
- ▶ 2011
- ▶ 2010
- ▶ 2009
- ▶ 2008
- ▶ 2007
- ▶ 2006
- ▶ 2005
- ▶ 2004
- ▶ 2003
- ▶ 2002
- ▶ 2001
- ▶ 2000