

Johannes Kepler University Linz
Department of economics

ceMEP

centre of excellence
“Markets and Economic Policy”

Public Economics

Labour Economics and Industrial
Organisation

International Economics and Finance

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1 Brief Summary

The enormous economic progress observed in many countries over the past century is unthinkable without the existence of markets as a framework for the unfolding of individual abilities for mutual benefit. However, profound and accelerating changes in technology, as well as the organisation of enterprises and the economy at large, have had significant impacts on the functioning of markets, improving it in many cases, while at the same time leading to market failures in others.

Investigating conditions for well-functioning markets and market failures is, thus, an intellectual challenge in its own right. But it is also of prime importance for the design of appropriate economic policies. There is widespread concern that rapid technological change and globalisation may contribute to adverse developments, such as environmental degradation, exhaustion of natural resources, abuse of market power, dismantling of the welfare state, enduring recessions, and unjust distribution of income and wealth. As a result, governments face ample demand for policy interventions to correct market failures.

Public policies that maintain the effectiveness, while at the same time avoiding and correcting market failures, require scientific economic analysis geared towards a thorough understanding of the fundamental economic processes involved. The appropriateness of specific policies proposed for certain problems should be subject to rigorous evaluation, based on established economic theory. The Department of Economics at JKU Linz has a strong tradition of research in several pertinent areas of economics. With the expertise thus accumulated, it forms the core of what can appropriately be termed a Centre of Excellence in "Markets and Economic Policy" (ceMEP).

Reflecting the special strengths and experience of present department members, the research efforts undertaken by the ceMEP can be characterised along different lines. The primary objective is academic research in its classic meaning, oriented towards the pursuit of scientific knowledge recognised by the international scientific community. At the same time, urgent real world problems are to be addressed, both on a national and international level. The ceMEP thus seeks to strike a balance between theoretical and applied work, with due emphasis on applying state-of-the-art econometric methods and developing of new econometric techniques and applications to meet new challenges of the time.

Successful research needs cooperation with leading national and international institutions. The ceMEP will benefit from significant strengths of the Department of Economics in several dimensions: participation in international research networks, leading positions or advisory activities at research institutions, sabbaticals at outstanding universities, as well as joint research projects. The achievements of the department have been recognised by several recent evaluations, consistently

ranking the Department of Economics as one of the top academic institutions not only in Austria, but also among all German-speaking economics departments.

A strong research record is also reflected in high quality teaching, based on the rich research experience of the department's faculty. In addition, it implies an early involvement of advanced students in ongoing research, eventually leading to successful doctoral dissertations and professorials. Again, the JKU Department of Economics boasts a strong record. Several graduates of the department hold leading positions in government and other policy making institutions, at research institutes, as well as chairs at prestigious universities.

In order to maintain and further develop these lines of excellence, the ceMEP must be able to rely on appropriate resources and funding. Even a quick glance reveals that, relative to other institutions of comparable excellence, the JKU Department of Economics is presently at the lower limit with respect to its research staff. The ceMEP must thus strive for a well-balanced increase of permanent senior and junior faculty, as well as temporary researchers. Additional funding needs to be ensured both through JKU funding and outside money. Some of the ceMEP research will continue to rely on funding by national or international institutions, such as the Austrian Science Fund, Austrian National Bank, the EU, or the World Bank. It may also involve funding from government agencies, as well as industries or companies. In all cases, maintaining high academic standards and a high level of independence of thought are of primary importance.

The research activities of the ceMEP can be categorised in three broad areas:

- Public Economics,
- Labour Economics and Industrial Organisation, and
- International Economics and Finance.

In all areas the JKU Department of Economics has a proven record of internationally acclaimed research, as reflected in the above mentioned international evaluations. The results have been published in high-quality refereed journals, as well as in edited books and monographs with prestigious scientific publishers. Details are found in the ceMEP research strategy. A brief summary is listed below.

1.1 Public Economics

Past and ongoing research in public sector economics is aimed at providing scientific evidence in order to clarify the role of state institutions in a market economy and to find the best ways of organising public intervention, if necessary. Studies concern basic issues in the public-versus-private debate, but are also touching

upon specific issues in various fields of public activities. In particular, research has concentrated on the following six areas:

Social policy: Studies have dealt with adequate ways of reforming the public pension system and with the characteristics of the market for private pension insurance. Further research in this area has addressed the consequences of immigration, the structure and growth of the health sector in Austria as well as issues in family economics.

Environmental Economics: Examples of the topics that have been investigated are the prospects of measures of controlling global warming, the implementation of permissions trading (initiated by the Kyoto treaty), or methodological aspects of cost-benefit analysis.

Privatisation, deregulation and monopoly regulation: In empirical studies, the potential for privatisation in Austria and other OECD countries has been estimated. Existing worldwide regulatory practice has been compared and schemes in order to overcome the information asymmetries between the regulating authority and firms have been proposed.

Theory of taxation: Studies have explored the properties of an optimal tax system that raises a given tax revenue for the financing of public goods and for redistribution at minimum distortions of individual behaviour.

Institutional economics and public choice: Incentive compatibility in public sector institutions has been studied and proposals for a redesign of several institutions, observing the self-interest of politicians, parties, bureaucrats . . . , have been made.

Shadow economy and tax evasion: In empirical studies the size of the shadow economy in 110 countries has been estimated. Moreover, the consequences (e.g., the loss of tax revenues) of the shadow economy for the formal one have been investigated.

Future research in public economics will proceed along the lines described above. Given the dynamics of the technological and societal changes, constantly new challenges for the role of the public sector arise and require scientific analysis. Among various other topics, presently planned projects deal with the relation between public insurance and the labour market, with emissions trading in the EU and the USA, with mechanisms to overcome international free-riding in the global warming problem, with international health-sector comparisons, or with problems for municipalities due to liberalisation of trade in services.

1.2 Labor Economics and Industrial Organisation

Past and current research in Labor Economics and Industrial Organisation is characterised by policy-oriented research, often in international co-operation with well-respected research institutions. The research focused on the workings of labour markets and the evaluation of policies. The following areas were the key fields of recent research:

Labour market policies: Studies have investigated the implications of special programmes to ease large-scale redundancies, the access to and the returns of formal education, the returns to apprenticeship training, and the association between trade unions and on-the-job-training. Labor market programs and (early) retirement schemes have been evaluated.

Unemployment: Studies have evaluated the welfare implications of unemployment, the distribution of unemployment spells, and the consequences of long-term unemployment.

Migration: Migration. Wage and employment/unemployment effects of increased immigration to Austria, especially in the period after opening the eastern borders, have been studied. Other research concerned regional mobility, the dynamics of firm employment, and comparisons of the speed of job creation and job destruction between Austria and other countries.

Competitiveness: Studies of market structure, profitability of firms and industries, and the application of game-theoretic models on firm strategies and behaviour have been conducted. Social costs of monopolies in specific industries, effects of privatisation, firm strategies in emerging industries, and costs and benefits of flexibility of firms have been researched.

Discrimination: Research investigated the effects of discrimination by sex and gender identity. Other research studied wage and promotion differentials between men and women in Austria. A meta-analysis of international wage differentials explored the role of anti-discrimination policies internationally.

Future research: Members of ceMEP have been active in international research networks like the Centre for Economic Policy Research in London, have worked in international collaborative projects and have advised the World Bank and the European Commission, amongst others. They have guided the European Commission in its industrial and research policies by shaping the European Competitiveness Report.

Members of the ceMEP are active in an international consortium led by the Brookings Institution (Washington, D.C.) and researchers from the European

Central Bank to explore issues of wage rigidity. Members are also part of two other international cooperative research networks, which have applied for funding from the EU 6th framework programme. The first will concern the changing environment for education and training in firms which are caused by different needs and risks of the information economy. In the second, research efforts will be directed towards a better understanding of incentives for migration, its impact on migrants and the host countries, and the relevance of immigration policies.

1.3 International Economics and Finance

In the area of international economics and finance, past and ongoing research focuses on various forms of economic integration and globalisation. The studies concern welfare and distributional consequences, as well as industrial restructuring in the process of economic transition and catching up. More specifically, research in this area has focussed on the following issues:

Applied general equilibrium modelling: In international collaboration, the department has constructed dynamic applied general equilibrium models geared towards numerical simulation of international economic integration, especially EU integration, including Austrian accession and eastern EU enlargement.

Theoretical analysis of trade policy: Several studies have dealt with efficiency and distributional consequences of trade policy reforms, such as reductions in tariff and non-tariff barriers, both on the national level and the multilateral level of the WTO.

Foreign direct investment and outsourcing: There have been important theoretical and applied contributions, particularly in the context of East-West European integration, on the role and importance of foreign direct investment, as well as outsourcing and cross-border fragmentation. Among the questions addressed are how these phenomena relate to trade, domestic income distribution and employment, as well as the efficiency of domestic resource allocation.

Countries in transition: Several studies have concentrated on the catching-up process of Eastern European transition economies. The aim was to empirically identify systematic patterns that can be found in industrial productivity growth and trade integration. Particular emphasis was placed on the question of vertical product differentiation in international trade, and on the role of geographic distance for international trade.

International migration: Recent studies have dealt with the impact of international migration flows, particularly regarding the conditions that need to

be satisfied for host-country efficiency gains, which is of obvious importance for the Austrian economy.

Financial markets: The department has recently embarked on research in this area. Among the issues addressed are speculative attacks on currencies, the role of stock market developments as predictors of real sector activity, and efficiency of stock markets.

Future research will expand applied general equilibrium modelling to the area of fiscal policy analysis in the context of internationally integrated commodity and factor markets. It will conduct further theoretical and applied research on welfare and distributional consequences of various forms of economic globalisation, shifting the focus towards a more policy oriented orientation. In addition, the ceMEP will continue research on international patterns of catching-up, particularly in the context of the wider European economic space, with special emphasis on the interrelationship between the various channels of international economic integration on product, labour and capital markets. Finally, it will pursue research on the microeconomic structure of financial markets, on international financial market interrelations, as well as on exchange rates and issues of monetary and fiscal policy coordination. The issues to be tackled are, thus, frontier subjects in academic research, while at the same time addressing topics of acute policy interest.

2 Kurzfassung

Der enorme wirtschaftliche Fortschritt, der in vielen Ländern im letzten Jahrhundert beobachtet werden konnte, wäre ohne die Existenz von Märkten als Rahmenbedingung für die Entfaltung individueller Fähigkeiten undenkbar gewesen. Tiefgreifende und sich stetig beschleunigende Änderungen der Technologie und der Organisation von Unternehmungen sowie der Wirtschaft als Ganzes hatten jedoch nicht nur positive Auswirkungen auf das Funktionieren von Märkten, in manchen Fällen führten diese Änderungen auch zu Marktversagen.

Die Analyse von Bedingungen für gut funktionierende Märkte aber auch von Gründen für Marktversagen ist sowohl eine intellektuelle Herausforderung per se, sie ist aber auch von zentraler Bedeutung für die Gestaltung von angemessenen wirtschaftspolitischen Maßnahmen. Es herrscht weit verbreitete Sorge, dass technologischer Wandel und Globalisierung zu nachteiligen Entwicklungen wie Umweltzerstörung, Erschöpfung der natürlichen Ressourcen, Mißbrauch von Marktmacht, Abbau des Wohlfahrtsstaats, andauernde Rezessionen und einer zunehmenden Ungerechtigkeit in der Verteilung von Einkommen und Wohlstand führen können. Daraus resultiert eine von unterschiedlichsten Seiten geäußerte Nachfrage nach politischen Interventionen, die Marktversagen und ungewollte ökonomische Entwicklungen korrigieren sollen.

Wirtschaftspolitik, die die Effektivität der Märkte aufrecht erhalten, aber auch gleichzeitig Marktversagen vermeiden und korrigieren will, erfordert eine auf einem grundlegenden Verständnis der fundamentalen ökonomischen Prozesse basierende wissenschaftliche Analyse. Die Eignung spezifischer Politikmaßnahmen für bestimmte Probleme muß einer rigoroser Beurteilung unterzogen werden, und zwar auf der Basis etablierter ökonomischer Theorie. Das Institut für Volkswirtschaftslehre an der JKU Linz hat auf mehreren Gebieten der Ökonomie maßgeblich zur internationalen Forschung beigetragen. Mit dem dadurch akkumulierten Expertenwissen bildet es den Kern des Exzellenzschwerpunktes "Märkte und Wirtschaftspolitik" (centre of excellence "Markets and Economic Policy" - ceMEP).

Die Forschungsleistungen des ceMEP reflektieren die speziellen Stärken und Erfahrungen der derzeitigen Institutsmitglieder, und sie können auf mehrfache Weise charakterisiert werden. Primäres Ziel ist akademische Forschung im klassischen Sinn, welche auf die Anerkennung im Rahmen der internationalen wissenschaftlichen Gemeinschaft abzielt. Gleichzeitig gilt es, sich auch den dringenden Problemen der realen Welt, sowohl national als auch international, zuzuwenden. Das ceMEP versucht daher, eine ausgewogene Kombination aus theoretischer und angewandter Forschung zu realisieren. Dabei kommt auch der Anwendung und Entwicklung neuester ökonometrischer Methoden, Techniken und Anwendungen eine große Bedeutung zu.

Erfolgreiche Forschung erfordert Kooperation mit führenden nationalen und internationalen Institutionen. Das ceMEP wird hierbei von den Stärken des Institutes für Volkswirtschaftslehre in mehreren Dimensionen profitieren: Teilnahme an internationalen Forschungsnetzwerken, führende Positionen bzw. beratende Aktivitäten an Forschungsinstitutionen, Forschungsjahre an renommierten Universitäten, sowie gemeinsame Forschungsprojekte sind Beispiele dafür. Die Errungenschaften des Institutes für Volkswirtschaftslehre wurden auch in einigen kürzlich erschienenen Evaluationen gewürdigt, in denen das Institut durchwegs unter den besten akademischen Institutionen nicht nur in Österreich, sondern auch im gesamten deutschsprachigen Raum gereiht wurde.

Die Forschungsleistungen des Institutes spiegeln sich auch in der hohen Qualität der Lehre wieder, die auf den reichen Forschungserfahrungen der Institutsmitglieder aufbaut. Dies beinhaltet dies auch die frühe Einbindung fortgeschrittener StudentInnen in die laufende Forschung, was in der Regel zu erfolgreichen Dissertationen und Habilitationsschriften führt. Auch in diesem Punkt kann das Institut für Volkswirtschaftslehre an der JKU auf gute Leistungen verweisen. Viele AbsolventInnen des Institutes bekleiden führende Positionen in der öffentlichen Verwaltung oder anderen politikrelevanten Institutionen und Forschungsinstituten, oder haben Lehrstühle an angesehenen Universitäten inne.

Um diesen Status der Exzellenz beizubehalten und noch weiter ausbauen zu können, muss sich das ceMEP auf die Bereitstellung adäquater Ressourcen und Geldmittel verlassen können. Selbst eine flüchtige Betrachtung der momentanen Situation zeigt, dass sich das Institut für Volkswirtschaftslehre an der JKU, verglichen mit anderen Institutionen vergleichbarer Exzellenz, am unteren Limit bezüglich seines Forschungspersonals befindet. Das ceMEP strebt daher eine ausgewogene Erhöhung der Anzahl an permanenten Stellen für etablierte Wissenschaftler und Nachwuchsforscher einerseits, sowie für zeitlich befristete Institutsmitglieder andererseits an. Zusätzliche Forschungsgelder sollten sowohl durch die JKU zur Verfügung gestellt, sie werden aber auch in Form von Drittmitteln anzustreben sein.. Bisherige und künftige Forschungsaktivitäten des ceMEP basieren zum Teil auf der Finanzierung nationaler oder internationaler Institutionen, wie der österreichische Wissenschaftsfonds, die OeNB, EU oder Weltbank. In manchen Fällen beinhalten Drittmittel auch Gelder öffentlicher Institutionen, aus der Industrie und von Firmen. In allen Fällen steht indes die Aufrechterhaltung des hohen akademischen Standards und ein hohes Niveau an Unabhängigkeit des Denkens im Vordergrund.

Die Forschungsaktivitäten des ceMEP lassen sich in drei breite Kategorien einteilen:

- Ökonomie des öffentlichen Sektors,
- Arbeitsmarktforschung und Industrieökonomik

- Internationale Wirtschaft und Finanzwesen

In all diesen Bereichen kann das Institut für Volkswirtschaft an der JKU auf international anerkannte Forschungsleistungen verweisen, wie aus den oben erwähnten internationalen Evaluationen ersichtlich ist. Die Resultate unserer Forschung wurden in hochqualitativen referierte Zeitschriften, Monographien und Sammelbänden bei angesehenen wissenschaftlichen Verlagen veröffentlicht. Details dazu finden sich in der ceMEP Forschungsstrategie. Nachfolgend findet sich ein kurzer Überblick über die einzelnen Bereiche des ceMEP.

2.1 Ökonomie des öffentlichen Sektors

Das Ziel der bisherigen ökonomischen Forschung im Bereich des öffentlichen Sektors war die Gewinnung wissenschaftlicher Erkenntnisse für eine grundsätzliche Klärung der Rolle staatlicher Institutionen in einer Marktwirtschaft sowie auch für eine bestmögliche Gestaltung spezifischer öffentlicher Interventionen, soweit diese nötig sind. Studien in diesem Bereich befassen sich mit grundsätzlichen Fragen der Debatte „Staatlich versus Privat“, gehen aber auch auf spezifische Fragestellungen verschiedenster Gebiete öffentlicher Aktivitäten ein. Die Forschung konzentrierte sich auf folgende sechs Gebiete:

Sozialpolitik: Studien beschäftigten sich mit der Reform des öffentlichen Pensionssystems sowie mit den Charakteristika der privaten Pensionsversicherungsmärkte, weiters mit den Konsequenzen der Immigration, der Struktur und Entwicklung des Gesundheitssektors in Österreich sowie mit familienökonomischen Fragen.

Umweltökonomie: Es wurden u.a. die Chancen ökonomischer Anreize zur Eindämmung des Treibhauseffekts, Probleme des Handels mit Emissionsrechten (initiiert durch das Kyoto-Protokoll) sowie methodologische Aspekte von Kosten-Nutzen-Analysen untersucht.

Privatisierung und (De)regulierung natürlicher Monopole: Empirische Studien untersuchten das Privatisierungspotenzial in Österreich und anderen OECD-Staaten. Häufig angewandte Regulierungsmechanismen wurden verglichen und verbesserte Verfahren zur Überwindung der Informationsasymmetrie zwischen Regulierungsbehörden und Unternehmen vorgeschlagen.

Steuertheorie: Ziel war eine Analyse der Eigenschaften eines optimalen Steuersystems, das ein gegebenes Steueraufkommen (Finanzierung öffentlicher Güter, Umverteilung) bei minimaler Verzerrung der individuellen Entscheidungen erbringt.

Institutionelle Ökonomie und Public Choice: Im diesem Bereich stand die Untersuchung von Anreizstrukturen in öffentlichen Einrichtungen sowie die Erarbeitung von verbesserten institutionellen Regelungen, die besonderes Augenmerk auf die Eigeninteressen von Politikern, Parteien, Beamten u.a. legen, im Mittelpunkt.

Schattenwirtschaft und Steuerhinterziehung: In empirischen Studien wurde die Größe der Schattenwirtschaft in 110 Ländern geschätzt. Weiters wurden die Konsequenzen der Schattenwirtschaft (z.B. Steuerausfälle) für die offizielle Wirtschaft untersucht.

Zukünftige Forschung zur Ökonomie des öffentlichen Sektors wird im Rahmen der oben genannten Gebiete weitergeführt. In Anbetracht des schnellen technologischen und gesellschaftlichen Wandels ergeben sich laufend neue Herausforderungen für den öffentlichen Sektor, die wissenschaftliche Analysen erfordern. Derzeit geplante Projekte betreffen u.a. den Zusammenhang zwischen Sozialversicherung und Arbeitsmarkt, Handel mit Emissionsrechten in der EU und in den USA, Mechanismen gegen das internationale Trittbrettfahrerverhalten beim Treibhauseffekt, internationale Vergleiche des Gesundheitssektors sowie Probleme der Gemeinden aufgrund der Liberalisierung des Handels mit Dienstleistungen.

2.2 Arbeitsmarktforschung und Industrieökonomik

Die bisherige Forschung im Bereich der Arbeitsmärkte und der Industrieökonomik war von starker Politikorientierung geprägt und wurde oftmals in Kooperationen mit anerkannten internationalen Forschungsinstitutionen durchgeführt. Die Forschung konzentrierte sich hierbei auf die Funktionsweise der Arbeitsmärkte und die Evaluation von Politikmaßnahmen. Die wichtigsten Bereiche der bisherigen Forschung waren:

Arbeitsmarktpolitik: Studien in diesem Bereich untersuchten die Implikationen spezieller Programme zur Entschärfung von Massenarbeitslosigkeit, Zugang zu und Erträge von formaler Ausbildung, Erträge der Lehrlingsausbildung sowie die Verbindung zwischen Gewerkschaften und Ausbildung am Arbeitsplatz. Weiters wurden Arbeitsmarktprogramme und (Früh-)Pensions-schemata evaluiert.

Arbeitslosigkeit: Forschungsarbeiten beschäftigten sich mit den wohlfahrtsökonomischen Implikationen der Arbeitslosigkeit, der Verteilung der Dauer von Arbeitslosigkeit und den Konsequenzen von Langzeitarbeitslosigkeit.

Migration: In diesem Gebiet wurden die Effekte steigender Immigration in Österreich auf Löhne und Beschäftigung bzw. Arbeitslosigkeit, besonders in

der Periode nach dem Fall des eisernen Vorhangs, analysiert. Weiters beschäftigten sich Forschungstätigkeiten mit Fragen regionaler Mobilität, der Dynamik der Beschäftigung in Firmen und Vergleichen über die Geschwindigkeit der Schaffung und Zerstörung von Arbeitsplätzen zwischen Österreich und anderen Ländern.

Wettbewerbsfähigkeit: Im Mittelpunkt standen Studien über Marktstruktur, Profitabilität von Firmen und Industrien und die Anwendung spieltheoretischer Modelle für Firmenstrategien und -verhalten. Weiters wurden die sozialen Kosten von Monopolen in bestimmten Industrien, die Effekte der Privatisierung, Firmenstrategien in neu entstehenden Industrien sowie Kosten und Nutzen der Flexibilität von Firmen erforscht.

Diskriminierung: Forschungsarbeiten beschäftigten sich mit den Effekten der Diskriminierung aufgrund von Geschlecht oder Geschlechtsidentität. Weitere Forschung wurde im Bereich der Lohn- und Beförderungsdifferenziale zwischen Männern und Frauen in Österreich betrieben. Eine Meta-Analyse internationaler Lohndifferenziale untersuchte die Rolle von Anti-Diskriminierungsmaßnahmen in einem internationalen Kontext.

Zukünftige Forschung: Mitglieder des ceMEP sind in internationalen Forschungsnetzwerken wie dem CEPR (Centre for Economic Policy Research, London) tätig, arbeiten an internationalen Projekten gemeinsam mit anderen Forschern und berieten verschiedenste Institutionen wie z.B. die Weltbank oder die Europäische Kommission. Die Industrie- und Forschungspolitik der Europäischen Kommission wurde hierbei durch Mitarbeit am Report zur Konkurrenzfähigkeit Europas (European Competitiveness Report) wesentlich mitgestaltet. Weiters waren Mitglieder des ceMEP in einem internationalen Konsortium tätig, das durch die Brookings Institution (Washington, D.C.) und Forscher der Europäischen Zentralbank geleitet wurde und sich mit verschiedenen Aspekten der Lohnrigidität beschäftigte. ceMEP-Forscher sind auch an zwei weiteren internationalen Forschungsnetzwerken beteiligt, die sich um Drittmittel im Rahmen des sechsten EU-Forschungsrahmenprogrammes beworben haben. Das erste Projekt beschäftigt sich mit Veränderungen bei Bildung und Ausbildung in Firmen aufgrund von unterschiedlichen Bedürfnissen und Risiken der Informationswirtschaft. Das zweite Projekt zielt auf ein besseres Verständnis der Anreize zur Migration, des Einflusses der Immigrationsentscheidung auf Migranten und Gastländer sowie auf den Einfluss von Einwanderungspolitik ab.

2.3 Internationale Wirtschaft und Finanzmärkte

Im Bereich der internationalen Wirtschaft und der Finanzmärkte konzentrierte sich die bisherige Forschung auf die verschiedensten Formen wirtschaftlicher Inte-

gration und Globalisierung. Die Studien befassen sich sowohl mit Wohlfahrts- und Verteilungskonsequenzen als auch mit industrieller Restrukturierung im Prozess der systemischen Transformation und des wirtschaftlichen Übergangs und Aufholprozesses. Die spezifischen Forschungsgebiete in diesem Bereich können unter den folgenden Themen zusammengefasst werden:

Numerische Simulation mit angewandten Gleichgewichtsmodellen: In internationaler Zusammenarbeit konstruierte das Institut ein dynamisches allgemeines Gleichgewichtsmodell, das empirisch implementiert und in Form numerischer Simulationen auf verschiedene Fragen der internationalen wirtschaftlichen Integration angewandt wurde, speziell im Hinblick auf die Integration der Europäischen Union, Österreichs Beitritt zur EU, sowie die EU-Osterweiterung.

Theoretische Analyse von Handelspolitik: Mehrere Studien befassten sich mit den Effizienz- und Verteilungswirkungen von verschiedenen Maßnahmen der internationalen Handelspolitik, wie z.B. die Reduktion von Zöllen und nicht-tarifären Handelsbarrieren, aber auch anderen Reformen nationalen Kontext oder auf dem multilateralem Niveau im Rahmen der WTO.

Ausländische Direktinvestitionen und Outsourcing: Speziell im Kontext der europäischen Ost-West-Integration gab es wichtige theoretische und angewandte Beiträge zur Rolle und Bedeutung ausländischer Direktinvestitionen, sowie von Outsourcing und grenzüberschreitender Fragmentierung. Es wurden die Auswirkungen dieser Phänomene auf den Handel, das heimische Einkommen, die Beschäftigung sowie die Effizienz der heimischen Ressourcenallokation untersucht.

Transformationsländer: Mehrere Studien konzentrierten sich auf die Aufholprozesse osteuropäischer Transformationsländer. Das Ziel war es, auf empirische Weise charakteristische Muster zu identifizieren, die das Wachstum industrieller Produktivität und die Handelsintegration dieser Länder prägen. Besonderes Gewicht wurde hierbei auf Fragen der vertikalen Produktdifferenzierung und die Rolle geographischer Distanzen für den internationalen Handel gelegt.

Internationale Migration: Neuere Forschungsarbeiten auf diesem Gebiet befassen sich mit den Einflüssen internationaler Migrationsströme, insbesondere mit jenen Bedingungen, die erfüllt sein müssen, damit die Gastländer zufolge von Migration Wohlstandsgewinne realisieren. Dieser Bereich ist besonders für die österreichische Wirtschaft von großer Bedeutung.

Finanzmärkte: Das Institut hat kürzlich die Forschung in diesem Gebiet verstärkt. Zu den untersuchten Themen gehören spekulative Attacken auf

Währungen, die Bedeutung von Aktienmärkten für die Prognose realwirtschaftlicher Aktivitäten, wie auch die Effizienz von internationalen Kapitalmärkten.

Zukünftige Forschung zielt darauf ab, die angewandte allgemeine Gleichgewichtsmodellierung auf die Analyse von Fiskalpolitik im Kontext international integrierter Güter- und Faktormärkte auszuweiten. Weiters wird die theoretische und angewandte Forschung im Bereich der Wohlfahrts- und Verteilungskonsequenzen verschiedener Formen der wirtschaftlichen Globalisierung vorangetrieben, wobei der Interessenschwerpunkt etwas in Richtung der Wirtschaftspolitik verschoben werden soll. Zusätzlich wird das ceMEP die Forschung im Bereich der wirtschaftlichen Aufholprozesse fortsetzen, besonders in Hinsicht auf ein erweitertes Europa. Dabei wird besonderes Augenmerk auf die Zusammenhänge zwischen der Integration von Produkt-, Arbeits- und Kapitalmärkte zu legen sein. Weiters wird das ceMEP die mikroökonomische Struktur von nationalen und internationalen Finanzmärkten, sowie Fragen der Koordination von Geld- und Fiskalpolitik bei alternativen Wechselkurssystemen zum Gegenstand der Forschung machen. Insgesamt wird die Forschung des ceMEP mithin nicht nur Kerngebiete der aktuellen akademischen Forschung erfassen, sondern auch Themen, die von großem Interesse für die Gestaltung politischer Maßnahmen darstellen.

3 General Motivation and Nature of ceMEP Research

During the last century the production of goods and services in industrialised countries has increased to such an extent that a high standard of living is guaranteed for large parts of the population. An essential prerequisite for this success has been the existence or establishment of markets, which have provided the appropriate framework for an unfolding of individual abilities for mutual benefit, as was already emphasised by Adam Smith and others in the second half of the 18th century. However, since the pioneering insights into the virtue of unfettered markets found by the classical economists at the beginning of the process of industrialisation, the structure of production and the organisation of enterprises and the economy at large have undergone many profound changes, with important implications for the functioning of markets. In fact, these changes have become particularly rapid in recent years. In some cases, the beneficial nature of markets seems vastly enhanced, while other changes raise the spectre of detrimental market failure. Continuing research is needed to understand the scope of these effects, and to support a well-guided policy response.

Gaining insights into the functioning of markets is not merely an intellectual challenge, but is of eminent significance for the design of an appropriate economic policy. There is a widespread concern among broad groups of the population that the rapid technological and structural changes, in particular the globalisation of the economy, may have undesirable consequences. Cases in point are environmental degradation, exhaustion of natural resources, abuse of market power by big enterprises, dismantling of the welfare state, abuse of the state by specific interest groups, enduring recessions, unjust distribution of income and wealth, to name just the most important. Serious economic analysis is required in order to obtain a sound perspective on possible market failures, and to formulate appropriate policies to avoid such failures or deal with their negative consequences. Likewise, such an analysis has to consider whether political interventions in market processes always deliver the desired outcomes: an evaluation of economic policies concerning their effectiveness and appropriateness is necessary.

The Department of Economics at JKU Linz has a strong tradition of research in several areas of economics which is devoted to advancing the stock of scientific knowledge about the working of markets, and of making this knowledge applicable to appropriate political measures. This tradition has generated what may appropriately be called a Centre of Excellence in Markets and Economic Policy (ceMEP) which serves as a framework for future economic research and constitutes an integral part of the overall research strategy of JKU Linz.

3.1 Nature of ceMEP Research

No centre of excellence can credibly claim to address all of the issues indicated above in their entirety. The research undertaken under JKU ceMEP will, therefore, by necessity be eclectic in nature. It aims at contributing to the body of scientific knowledge in selected areas within the general orientation characterised above, reflecting the special strength of the researchers present as staff members in the JKU Department of Economics, in combination with their international collaborators, and in relation to the evolution of research in economics worldwide. At the same time, the ceMEP will be responsive to the course of real-world events by trying to focus on pressing problems of the time.

The research undertaken also varies in the level of abstraction and application. It includes academic research in its classic meaning as well as research which is geared towards the solution of specific policy problems, including research funded from outside institutions. In all cases, however, ceMEP research starts out from the stock of scientific knowledge as documented in established academic literature in economics, and it aims to contribute to solidifying and enhancing this knowledge. In line with this guiding principle, ceMEP research is mainly oriented towards presentation in academic conferences and workshops, and towards publication in internationally refereed academic journals. This is a standard that the ceMEP sets for itself, and it forms an operational benchmark against which its success should be measured. It is also in full accordance with the principles laid down in the mission statement of the Department of Economics at JKU Linz (see <http://www.econ.jku.at>).

Similarly in line with the department's mission commitment, the ceMEP tries to strike a balance between theoretical and applied work. Empirical work based on econometric methods plays a key role, with special emphasis on the development of new econometric techniques and their application to practical problems. In this context, close connections to the Department of Statistics are envisaged. Likewise, basic research (Grundlagenforschung) in economic theory, as well as reflections about the basic principles of economic science and its cultural and historic roots, are integral parts of ceMEP activities.

Contributing to the body of relevant scientific knowledge may, but need not, involve work under large-scale projects funded by independent outside institutions, such as the Austrian Science Funds, the Austrian National Bank ("Jubiläumsfonds der Oesterreichischen Nationalbank"), or by international institutions, such as the EU or the World Bank. It may also involve funding from government agencies on various levels as well as industries or individual firms. In all cases, however, ceMEP research strictly observes the aforementioned academic standards as well as a high level of independence of thought. To preserve such independence, small-scale research on an individual level and research based on

strictly academic incentives will always be an integral part of ceMEP activities. This implies that the medium term strategy must allow for a significant amount of flexible response to the evolution of economic research world-wide, and to the feedback that ceMEP research receives from the scientific community through the usual channels of scientific communication. For this reason, the ceMEP deliberately abstains from any tight organisational structure extending beyond its close association with the JKU Department of Economics.

Scientific research needs to have a distinct international orientation. Its success importantly hinges on cooperation with leading national and international institutions. In the past, members of ceMEP have been part of EU-financed TSER projects as well as projects in the EU 5th framework, are part of the leading European research networks, like the London-based CEPR, the Munich-based CESifo and the Bonn-based IZA or they have spent sabbaticals at UC Berkeley, Harvard and Stanford. Members have also close ties (as scientific director, deputy director, research associate) to the leading Austrian institutions in applied economic research: the Vienna Institute for International Economic Studies (WIIW), the Vienna Wirtschaftsforschungsinstitut (WIFO), as well as the Vienna Institute for Advanced Studies (IHS). Right now, members are taking part in applications in two big research networks in the sixth framework: two applications for EU Marie-Curie fellowships are currently under way. These new projects – should they receive the expected funding – will contribute enormously to a further internationalisation of ceMEP.

The aforementioned scientific standards have consistently been applied in past recruiting and promotion policies at the JKU Department of Economics. Personnel decisions have followed strict publication-based procedures. It is well known that an explicit incentive mechanism, which rewards publications in prestigious academic journals, is of vital importance for the performance of research institutions because it makes personnel decisions predictable and transparent. It has the advantage of giving young researchers the right incentives where to direct their efforts. The ceMEP will further expand these mechanisms in the future.

Recent evaluations of economic departments based on their research output in Europe, the German-speaking countries as well as in Austria have unanimously given very favourable results for the Department of Economics at JKU. For instance, Bommer and Ursprung (1998) rank Linz among the top ten German-speaking economics departments. Kirchsteiger and Ritzberger (2001), evaluating Austrian departments, rank Linz between one and three, depending on the criterion used. And in a recent evaluation by Bauwens et al. (2002) the JKU Department of Economics is ranked top in the German-speaking world, although the study still observes a significant difference between top European and Austrian departments.

The Department of Economics' excellence is not only limited to its research

output. Excellence of research is a necessary prerequisite for quality in teaching. The department has always aimed at integrating students and post graduate scientists within its research agenda. This resulted in Master's theses, PhD dissertations and professorial habilitations that managed to win national and international awards. Also, many graduates hold leading positions in policy-making institutions, like the Austrian Central Bank, the WIFO, the Ministry of Finance, etc., they held and hold chairs in economics in leading universities like Kiel, Mainz, Regensburg, Zurich and Vienna.

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4 Research Focus I: Public Economics

The role of the public sector in a market economy is widely debated. There is a unanimous agreement that some forms of public intervention, that is, a certain level of public expenditures and the establishment of appropriate institutions financed by taxes, is necessary in a market economy. However, the very extent and structure of this interference is under scrutiny.

The most radical critics of public interventions argue that government activity is undesirable per se, because of the problematic nature of the decision-making process and the often unclear specification of aims and targets, which leaves much room for disguising the pursuit of specific interests of various groups behind some vague common good. Therefore, in this view, any outcome that is not achieved by private markets is inefficient. The role of government ought to be restricted to defining and enforcing property rights, whereas economic activities should be left to the private sector with little or no public regulation. This implies that privatisation and deregulation are the most important actual targets for economic policy.

On the other hand, there are much more sceptical views concerning the outcome of a market economy, in case that public interference is left to a minimum. They are based on the recognition of market failures, i.e., of situations where specific properties of goods, of production processes or of the information structure prevent efficiency of the market-mechanism (environmental problems like the greenhouse effect represent a prominent example for market failures). In addition, it is argued that the distribution of income, as it results in a free market economy, must be considered undesirable or unfair to some extent. For these reasons, public policy needs to intervene actively in markets.

4.1 Ongoing and Past Research

Past research in public sector economics, within the research focus on markets and economic policy, has provided scientific evidence to clarify the role of the state and to find the best ways of organising public intervention, if at all necessary. Obviously, in a dynamic economy, where rapid technological and societal changes constantly offer new challenges, no final answers can be given to these questions. Nevertheless, important contributions have been made from members of the Department of Economics in order to provide at least partial solutions. Studies have concerned basic issues in the debate on whether the private or the public sector should perform certain tasks, but have also touched upon specific issues in various areas of public activities. They range from highly theoretical papers to applied economic research and evaluations of economic policy. In particular, research has concentrated on six areas, which will now be specified in detail.

4.1.1 Social Policy

The public pension system, its functioning and the adequate way of reforming it, is one of the areas where the debate on private vs. public institutions is most evident. In this area the Department of Economics can draw on considerable expertise. Several studies have analysed the properties of the current public pension system and the various suggested reforms. The efficiency and redistributive effects of a transition from the pay-as-you-go system to a funded pension system are the central aspects of these studies. In particular, it has been shown that efficiency gains for later generations from such a transition are never sufficient to compensate the generations which lose when the transition is initiated. Moreover, studies conducted at our department have dealt with the question of whether or not the market for life annuities offers a suitable supplement to the public pension system. In insurance markets, the problem of adverse selection and its implications for market outcomes and on welfare need careful analysis. The studies have shown that in several cases no equilibrium may exist in the market for life annuities and, if it exists, it is unfavourable for the individuals with low life-expectancy.

The reform of the public health-care system, which intends higher efficiency and a reduction of the public expenditures, is a second example for the importance of economic analysis of social-policy issues. In a study carried out at the Department of Economics, the extent and structure of the health sector in Austria, as well as its contribution to economic growth, has been assessed. Furthermore, in an ongoing project, the fiscal impact of immigration in Austria is investigated. The method of "generational accounting" is applied to find out whether, as is often argued, the costs of immigration might be higher than its benefits. Also, it is analysed how immigrant votings affect the level of redistribution and how this in turn might affect natives' attitudes towards voting rights for immigrants. Another area of research in social policy is the economics of the family. Studies performed at the Department of Economics have assessed the household expenditures for children, analysed the causes of divorce and the implications for child-care and alimony agreements.

4.1.2 Environmental Economics

Technological externalities, common property or public goods are reasons for the misallocation of natural resources. Research at our department strives to improve the interaction of environmental resources and economic activities, both from a normative and a positive (public-choice) perspective. At present, research in this area ranges from general studies regarding the appropriate instruments for environmental policy and methodological aspects of cost benefit studies to particular environmental topics like global warming or the environmental consequences of agriculture.

Members of the department have studied the consequences of eco-tax systems in small open economies and their realisation potential in representative democracies. A further research agenda is the implementation of tradable emission permits, which were initiated by the Kyoto treaty, and, more generally, the potential of International Environmental Agreements to prevent free-riding in controlling global warming. According to our research, two thirds of the global warming problem can be attributed to the national inability to balance a country's individual marginal cost and benefit curves of emission reductions, while only one third can be ascribed to a global public good problem.

Another topic of research in international environmental economics performed at our department has dealt with the consequences of strategic behaviour and interjurisdictional competition which restricts national environmental policies. Studies have shown the possibility of environmental dumping to attract foreign firms. Further, we are especially interested in methods for the assessment of natural resources (cost-benefit analyses), where methodological aspects of contingent valuation like warm glow, different question formats, free-riding behaviour in opinion polls and the comparison of actual with hypothetical payments have been investigated. Results show that this method will come up with reliable boundaries for true welfare measures, if certain rules are observed in the application of contingent valuation.

4.1.3 Privatisation, Deregulation and Monopoly Regulation

Privatisation and deregulation have been central to economic policy in the last two decades. In the past, many natural monopolies were run by governments in order to avoid private monopolies charging inefficiently high prices. Economic theory has demonstrated that the lack of competition does not provide incentives for public enterprises to operate at low costs. It is therefore important to find out which public enterprises should be privatised and how they can be deregulated. We have demonstrated our expertise in empirical studies for Austria, in which the potential size of privatisation was estimated by applying the public-choice approach, and other OECD countries. The privatisation of telecommunications or energy forced public agencies to control the pricing of the dominant agents in these sectors. This problem is difficult to solve because of the information disadvantages about costs and demand that the regulator has to face. At our department, we have designed new optimal profit-sharing schemes that help to overcome these asymmetries in information and can be implemented easily. Further, an evaluation of the existing regulatory practice has been carried out. These theoretical considerations are supplemented by a comparison of regulatory practices worldwide (especially UK and US).

Further, studies at our department have dealt with the concerns that the

worldwide trend of markets liberalisation, reflected e.g. in the further development of the General Agreement on Trade in Services (GATS), may lead to social problems and negative effects on social welfare, particularly in the fields of social insurance, municipal services, public health care and education.

4.1.4 Theory of Taxation

Tax revenues represent the most important part of the of the public sector's financial resources. They now amount to about thirty (and more) per cent of GDP in industrialised countries like Austria. Taxes are known to distort individual decisions and, therefore, to cause an excess burden on households and firms in addition to their reduction of income or purchasing power. For this reason, the search for an optimal tax system which minimises efficiency losses, but still raises a required amount of revenues, has been a prominent topic of theoretical research in public finance in the last decades. Studies undertaken at the Department of Economics have explored the properties of the optimum non-linear income tax, applying the asymmetric-information model introduced by Mirrlees, where individuals differ by wage rates. The appropriateness of indirect taxation and of inheritance taxation was established in an extended model, which incorporates further sources of differences between individuals like inherited capital endowments.

Related work has been done in order to analyse, in a game-theoretic model, the possibility of designing taxes as suitable incentives for private contributions to a public good. In particular, properties of linear tax-subsidy schemes, which induce an efficient amount of public-good provision, were formulated .

4.1.5 Institutional Economics and Public Choice

Particularly in times of vivid debates about the questions of size, organisation and influence of the public sector, it is important to analyse the government sector's institutions and the decision-making processes in terms of allocative efficiency. Research at the Department of Economics in this field of interest is twofold: On the one hand, it deals with incentive compatibility of various institutions in the public sector from a normative perspective. Here, special attention has been paid to central public auditing (as performed by the Austrian and, on a regional level, the Upper Austrian Court of Audit) and to the system of revenue collection and intergovernmental transfers in a federative state, focusing on Austria and Switzerland.

On the other hand, the outcome of the decision-making processes has been explained by the systematic application of the public-choice approach which analyses the behaviour of governments (politicians), parties, voters, bureaucracies and other interest groups by use of utility-maximising individuals who are subject

to constraints. Studies regarding this perspective have focused on the redesign of the International Monetary Fund (against the background of rising criticism on the Fund's practice in granting assistance) and whether or not a European Federal Constitution, after having created a European Monetary Union, is needed. We showed in an analysis of the Central Bank that the institutional arrangements are important to maintain its independence.

In all of these fields, theoretical and empirical research addresses the efficient provision of public and merit goods, not only on the individual but also on the macro (societal) level. The findings are also intended for being presented in a way understandable for collective decision-makers and a broader public in order to give their realisation a good chance.

4.1.6 Shadow Economy and Tax Evasion

Another area of expertise at our department is the mostly empirically orientated research on the shadow economy and tax evasion. Such research is confronted with two difficult questions, namely how to define a shadow economy and how to measure its size. A considerable number of approaches to measure the size and development of the shadow economy and tax evasion have been suggested by members of our department, and some of them have originated from our department. We have estimated the size and development of the shadow economy in 110 countries for the IMF, the World Bank and public institutions in Germany, Austria, and Switzerland.

Another major research area deals with the consequences of a rising shadow economy and its interaction with the official one. One of the major concerns is that government revenues (from taxation and social security contributions) are (partly) lost. On the other hand, underground activities are value-creating and introduce a dynamic element into the "official" economy. The latter effects have been shown in various studies for Germany and Austria. Major findings are that 2/3 of the shadow economy activities are complementary to official activities and that roughly 66 % of the income earned in the shadow economy is spend immediately in the official economy – hence this black money considerably stimulates the official economy and compensates a part of the revenue losses.

4.2 Future Research

In all of the above-mentioned fields, there are many unresolved problems and questions which deserve further analysis. Consequently, future research by members of ceMEP is intended to proceed along the lines described above. Examples of the topics of presently planned projects are the following:

- Relations between public insurance (health, pension, occupational accidents) and the labour market. Particular questions to be analysed in this project concern the differences in the utilisation of insurance benefits between different types of workers or industries.
- ceMEP has recently become Austrian team leader in the international SHARE project: The "Survey on Health, Aging and Retirement Europe" is an international multi-disciplinary cooperation with leading researchers from European (Mannheim, Carlos III Madrid, London, Paris, Copenhagen, Venice, etc.) and US research institutions (RAND, Michigan, Princeton). With the help of psychologists, sociologists and medical researchers, a panel survey design will be developed, tested, and applied to a random sample of elderly persons across Europe. The data will be highly innovative because of the combination of economic and medical information and they will allow to give answers to many problems of ageing populations. The first round of interviews in Austria is being financed by the Austrian Science Funds, but there are plans to get further funding from the EU 6th framework.
- International comparisons – particularly with other EU member states – of the macroeconomic structure of the health care sector and its contribution to economic growth.
- Further analysis of the custody regulations and the economic consequences of divorce, based on a sample of the outcomes of legal settlements in divorce cases.
- The functioning of the market for private pension insurance as a supplement to social security and the effectiveness of public incentives to promote private demand for pension contracts. Appropriate tax treatment of private pension insurance.
- Applied economic studies in the area of emission trading; especially emission trading, especially within the European Union and within the United States.
- Suggestion of a mechanism for the private provision of public goods taking into account intertemporal aspects of renewable resources - an application of this mechanism would partly overcome the international free-riding problem in the global warming phenomenon.
- Analysis of Coaseian payments from the tourism sector to Austrian farmers for their provision of landscape cultivation activities which represent a positive externality of the Austrian agricultural sector.
- Application of Contingent Valuation for the economic analysis of the Austrian Red Cross organisation. Within this project we want to study the

problems of warm glow and free-riding behaviour in contingent valuation studies.

- Microeconomic research about the question why people have an incentive to work in the shadow economy.
- Further elaboration on constitutional economics with respect to a European Federal Constitution.
- Challenges for municipalities caused by the liberalisation of trade in services.
- Ethical aspects of economic policy with a special focus on the satisfaction of basic needs (e.g. poverty alleviation) in the welfare state, on gender-specific empowerment policies and on the role of NGOs and NPOs.

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5 Research Focus II: Labour Economics and Industrial Organisation

Labour Economics and Industrial Organisation are two of the growing industries in economics in the last two decades. Labour Economics is the most empirical field within economics, because labour economists have been the first to compile large data sets for individuals in cross-section and panel format. They have also been pioneers in trying to answer concrete policy questions by using advanced econometric methods. Employment, unemployment and income distribution have always been central economic policy issues and labour economists have contributed to their investigation.

Labour economists, looking at market-determined outcomes which may be distorted by policy interventions, search to distinguish good from bad policy. Economic policy has played an enormous role in labour markets, starting from the setting of minimum wages, interference in markets through wage bargaining institutions to different facets of social policy (unemployment insurance, employment regulations, pension schemes, subsidies for education, etc.). All these policy interventions may have considerable impacts on the functioning of the labour market and should be evaluated regarding incentive aspects, their impact on public finances and on the welfare of individual citizens and workers.

Modern labour economics is not confined to the narrow issues of work and pay, it also has close relations to the other topics of the ceMEP, especially public economics – as elaborated above – but also international economics via its relations to international mobility of labour and the impact of globalisation on the labour market in general. Moreover, labour economics has been innovative to consider other social problems like education, gender and family affairs or criminology.

Industrial Organisation, on the other hand, has been on the forefront in the development of game-theoretic models and their application in strategic business situations. The field has become more empirical recently, analysing important aspects of firm strategies like market entry, competitive policies, price setting, innovation and research and development with the use of recently available data. Here again, the interaction between markets and economic policy is the central aspect of research: is there a role for industrial policy to interfere with markets and industries? How can (and shall) market power be controlled, what drives innovative activity, and what makes regions and countries attractive for foreign direct investment? While labour economics concentrates on firms' decisions in terms of employment, industrial organisation concentrates more on the behaviour of the firm in the product market.

5.1 Ongoing and Past Research

5.1.1 Gender Discrimination in the Labour Market

Minorities typically face unfavourable labour market conditions which lead to low pay, less employment, less training on the job and fewer promotions. If individuals with identical productive characteristics are treated differently solely because of the demographic group they belong to, this is regarded as discrimination. Past research at the Department of Economics investigated the effects of discrimination by sex and gender identity. An experimental study investigated the effect of sex on hiring probabilities (letters of hypothetical applicants with identical qualifications but different sex and personality were sent in reply to job advertisements): the study showed that otherwise identical male and female applicants have significantly different hiring chances. This result, in combination with the novel technique, received major national and international attention. Other research dealt with wage and promotion differentials between men and women in Austria. A meta-analysis of international wage differentials, which explored the role of anti-discrimination policies, complemented the international comparison of gender wage differentials.

5.1.2 Economics of Education and Wage Inequality

Members of the ceMEP participated in a large-scale EU-sponsored TSER program on "Public Funding and Private Returns to Education" (consisting of researchers from Warwick, Barcelona, Amsterdam, Paris, Mannheim, Stockholm, Milan, etc.). The programme concentrated on investigating comparable returns to education across European countries. Possible determinants of the returns to education, e.g. school enrolment or the influence of the system of student support and tuition, were investigated. Further research in this field covered problems of the apprenticeship system in Austria, returns to apprenticeship training, and on-the-job-training. Earnings inequality is an important issue as such, so studies looked at the development of inequality in the Austrian economy as well as on the impact inequality within firms can have on productivity and firm performance.

5.1.3 Migration, Worker Mobility and Employment Dynamics

Issues of worker mobility, within and across national borders, have also been a major research topic. Economists are generally interested in gauging the impact of immigration on the native labour force. Together with colleagues from Zurich, we have considered wage and employment/unemployment effects of increased immigration to Austria, especially in the period after the fall of the iron curtain. Other research focused on regional mobility, the dynamics of firm employment,

and comparisons of the speed of job creation and job destruction between Austria and other countries. It is often asserted that the Austrian labour market is relatively rigid in terms of labour law, therefore, comparable data on worker mobility and job creation are necessary to assess these claims.

5.1.4 Evaluation of Social Policies

The evaluation of policy measures is not only an essential part of knowledge formation, but also indispensable for informed policy advice. Here, theoretical approaches go hand in hand with advanced econometric techniques for cross-section and panel data. The main art is to identify causal effects of the respective policy change: it is not sufficient to establish circumstantial evidence (correlation), a causal impact means that there is a direct link between policy and outcome. The ceMEP has specialised on econometric evaluations of labour market and social policy. Some examples include evaluations of unemployment benefit regimes, special labour market programs and (early) retirement schemes. Some of these evaluations have been sponsored by third parties, for example the World Bank.

5.1.5 Unemployment Dynamics

The measurement of unemployment, and the limitations thereof, is a prerequisite for the analysis of any potential impact of policy initiatives for the unemployed. A number of studies, some of which helped to shape the present program of labour market reporting in Austria and Poland, were conducted at the Department of Economics at JKU.

The precise measurement of unemployment, because of its dynamic nature (i.e. the continuous change in the stock of unemployed by the influx of new entrants and the outflow of others), requires the statistical tools of 'survival analysis'. Adaptations, specifications and extensions of these tools to the specific needs in unemployment analysis are an ongoing concern of the ceMEP.

On a more theoretical level, the welfare implications of unemployment were analysed. Welfare depends crucially on the distribution of spell-lengths. A long unemployment spell is worse than a short one, and the concentration of the unemployment burden on a few long-term unemployed is another aspect of the unemployment dynamics. The development of labour market policies and labour market reforms needs to address these characteristics to increase the welfare of the unemployed – and of the tax payers.

5.1.6 Industrial Organisation

Research in industrial organisation was organised around the study of market structure, profitability of firms and industries, and the application of game-theoretic models on firm strategies and behaviour. Social costs of monopolies in specific industries, effects of privatisation, firm strategies in emerging industries as well as costs and benefits of firm flexibility have been researched. Members of the ceMEP have been instrumental – together with the Austrian Institute for Economic Research (WIFO) – in shaping not only Austrian, but also European industrial policy. The highly influential European Competitiveness Report for the EU commission has been compiled by an international consortium led by the WIFO and a member of the Department of Economics.

5.2 Future Research

The main strength of the working group within the ceMEP is its co-operation with international researchers: on the one hand through the membership in official networks like the CEPR, London, the IZA, Bonn, and the European Society for Population Economics (ESPE), on the other hand through personal contacts (co-authors) in leading research institutions throughout the world: ANU (Canberra), Amherst (USA), LSE (London), EUI (Florence), and the Universities of Delhi, Essex, and Zurich. Future research in labour economics will continue to apply appropriate theory, up-to-date microeconomic techniques and experimental research to the pressing policy problems of the future. Apart from continuing to research the dynamics of wages, employment and unemployment, topics in gender and household economics will be explored. Future research in industrial organisation will concentrate on the interrelation between strategies of firms and countries with respect to innovation and the business environment. An example for this is the investigation how the strategy and success of Nokia and Ericsson depend on the telecommunication policy in Finland and Sweden.

Right now, new initiatives have been started that will occupy major parts of the working group in the next years:

- Members of the ceMEP are active in an international consortium led by the Brookings Institution (Washington, D.C.) and researchers from the ECB to explore issues of wage rigidity. Downward inflexibility of wages can cause unemployment and might be different at different levels of inflation. The aim of the project is to use comparable methodologies across European countries and the US and to give recommendations on the optimal design of monetary policy.

Members of ceMEP are also part of two other international cooperative re-

search networks, which have applied for funding from the EU 6th framework programme (not yet awarded):

- "Integrated Migration and Multiculturalism" will be led by CEPR and UCL, both in London, which will co-ordinate the leading European migration researchers (Aarhus, Bar Ilan, Tel Aviv, Tilburg, Zurich, Oslo, Tinbergen, Carlos III, Pompeu Fabra, Linz, etc.). Research efforts will be directed towards a better understanding of incentives for migration, their impact on migrants and the host countries, and the relevance of immigration policies.
- "Education and risk in a knowledge-based information society" will be led by IZA, Bonn, and the team will consist of education economists from Paris I, Milan, Amsterdam, Cardiff and Madrid. The main issues of this research network regard the changing environment for education and training in firms which are caused by different needs and risks of the information economy.

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6 Research Focus III: International Economics and Finance

Over the past two decades, advances in the technology of communication and transport, as well as policy-induced dismantling of artificial barriers, have progressively reduced the "economic distance" between countries. As a result, all countries are embedded in a world economy where markets are increasingly international, or even global. There is a general presumption that, in economic terms, this process is beneficial. At the same time, it is widely acknowledged that internationalisation does not automatically deliver benefits under all possible circumstances. It needs to be supported, and sometimes kept in check, by well-balanced economic policy, both at the national and the international level. Policy needs to be grounded in scientific knowledge of the benefits, as well as the problems, of globalised markets. The ceMEP, in its research focus on "International Economics and Finance", intends to contribute to this knowledge.

The benefits of well functioning markets are potentially enhanced by internationalisation, but so are the dangers of market failure. Moreover, policy-induced liberalisation may take several forms, not all of which are clearly beneficial for all countries involved. Pursuing internationalisation for its own sake, without duly observing the risks arising from market failures, whether fundamental or policy-induced, is ill-guided. A case in point is regional market integration which may be detrimental because it introduces distortions for trade and investment by discriminating against non-members of the "regional bloc". The temptation to pursue integration on a regional and preferential basis is apparent, but it is by no means guaranteed that in each case the countries involved reap the alleged benefits. Moreover, the world economy as a whole may suffer from a setback to the multilateral track of internationalisation.

In many countries, particularly in Europe, the past decade has witnessed domestic liberalisation and privatisation in areas where markets have traditionally been under domestic regulation, reflecting fear of market failure and abuse of monopoly power. Prominent examples are energy, telecommunications, and banking. Having opened these areas to private markets domestically, internationalisation is widely perceived as the next logical, and allegedly beneficial, step. This is reflected by an extension of traditional methods of internationalisation to these areas, be it under regional blocs such as the EU or under the multilateral umbrella of the WTO through the GATS. However, efficient market outcomes under conditions of globalisation can only be secured by carefully dealing with market failures, and by avoiding policy-induced distortions. This is a particularly formidable policy challenge in these areas of recent liberalisation. In some cases, internationalisation may itself be conducive to avoid, or help correct, market failures, in others the risk of market failure is particularly large with new technologies and a high de-

gree of internationalisation. In such an environment, domestic and international economic policy is fundamentally dependent on scientific research based on theory and careful empirical research on the efficiency effects, both in the short- and in the long-run, of alternative forms of internationalisation of specific markets, whether on general grounds or based on certain policy reforms.

Hardly ever do the benefits of internationalisation accrue equally to everybody. Instead, the gains for some typically imply pains of adjustment for others, at least in the short run. Such pains may come in the form of lost jobs or through pressure on certain types of income which may, in turn, imply unwelcome effects in terms of poverty or inequality. In addition, the gains often come at the expense of an increased exposure to risks, both for individuals and the economy at large, which in many cases is notoriously difficult to deal with by means of private insurance markets. Therefore, the challenge for governments is to strike a balance between securing efficiency gains from internationalisation, while at the same time paying due attention to distributional and risk implications, and to provide relief if these are deemed unwelcome from society's point of view. Of particular importance are labour market policies dealing with both reallocation and wage formation, as well as policies aimed at social security.

In addition to providing short-term relief to the less fortunate, economic policy needs to pay attention to education and skill formation, so as to enhance the economy's capacity to reap gains from future advances of technology and internationalisation with lower adjustment costs. Again, the importance of labour market policies is almost self-evident. In addition, the need for scientific research and knowledge on which to build a promising strategy for economic policy cannot be overemphasised. An adequate policy response to these challenges must rely on extensive scientific research aimed at identifying the channels through which adjustment costs are felt on the individual level, both conceptually and empirically. In particular, such research must focus on the specific ways by which individual skills and the general knowledge stock of an economy are accumulated and, in turn, determine an economy's position in globalised markets. This should eventually enhance policy makers' awareness of individual incentives for, as well as the economy-wide effects of education and skill formation.

Internationalisation of markets often restricts national governments as it limits the instruments available to them to pursue their policy goals. Indeed, governments often feel a loss in national policy autonomy due to economic globalisation. Macroeconomic stabilisation (employment, price stability) is the most evident case in point, but the issue extends into many other policy areas, such as taxation, competition, or labour market regulation. Maintaining international competitiveness is often argued to be an overriding constraint in almost all areas of domestic policy. Perhaps the most important examples are domestic labour markets and environmental policy. However, the true nature of policy restrictions

that countries face under alternative levels and forms of globalisation are far from self-evident. They can only be identified by careful scientific analysis on the precise implications of globalised goods and financial markets against the background of individual countries' economic policy goals.

If markets are internationalised, then almost any policy pursued by one country also affects other countries. Whether positive or negative, such externalities give rise to inefficient policy combinations if governments act in an uncoordinated way. Conversely, policy coordination, if based on solid knowledge about international policy-spillovers, is capable to generate outcomes with a – potentially – higher level of economic well-being in all countries than would be the case in a world where countries act in a non-cooperative way, pursuing only national policy goals. Well-known examples are the so-called "races to the bottom" in the realm of environmental or tax policies or policies geared towards growth and stability. While the point seems relatively clear in general terms, significant uncertainties still prevail in almost all areas of economic policy, as to the extent, and sometimes even the direction, of the policy spillovers. The need for solid research is obvious.

Internationalisation of markets also generates the risk that a country is negatively affected by an international transmission of "shocks" that are entirely unrelated to domestic market or policy failure. The most prominent example is financial markets where the degree of internationalisation and the speed of transmission are particularly high. Shocks may originate in some foreign currency crisis, and the transmission may come in the form of direct contagion, or simply in the form of sudden exchange rate changes with associated real effects on goods markets. Shocks may, however, also originate from bubble-like over-valuation of assets followed by a sudden correction in line with "fundamentals". International transmission into the real economy may occur via international commodity markets (international trade) or – more directly – if domestic individuals hold over-valued foreign assets, as is often the case with internationalised asset markets. Of course, over-valuation may also occur in domestic assets. Such scenarios constitute formidable challenges for economic policy that are in many ways new and without much precedence to learn from. They relate to both, questions of appropriate adjustment once the shock arises and – perhaps more importantly – possibilities of avoiding such shocks in the first place. Meeting these challenges successfully requires firm knowledge of the driving forces and the functioning of international asset markets. This includes the transmission channels from the financial side into the real side of the economy and, of course, from one country to another. It also includes the role of information asymmetries and new behavioural paradigms for various financial market participants and the role of institutional arrangements. Knowledge of this kind can only be generated by scientific research, both of a theoretical and empirical nature, on the functioning of international financial markets.

6.1 Ongoing and Past Research

Through its past research, the JKU Department of Economics has acquired significant academic expertise and excellence in several of the above mentioned areas of international economics. Ongoing research consistently builds on this excellence, and the same holds true for future research planned under the ceMEP. Many publications in international peer-reviewed journals show that our research in international economics has been recognised by the scientific community. In addition, the results achieved have, on various occasions, played an important role in policy formation.

Future ceMEP research in the area of international economics will build on the specific excellence and strength that the Department of Economics has developed up to date. Describing the motivation, content and output of past research conducted by researchers associated with the ceMEP is the most appropriate way to describe and outline future ceMEP research, and to judge its importance for the JKU research portfolio. Meeting new challenges by drawing on the stock of knowledge and expertise accumulated in the past, and by making full use of past achievements is a governing principle of ceMEP activities. It is against this background that we now provide a suitable characterisation of research undertaken by members of the JKU Department of Economics on the above-mentioned issues during the last 7 years.

6.1.1 Computational Trade Policy Analysis and European Integration

The European Union is a classic example for the regional integration blocs mentioned above. Evaluating specific steps of preferential integration proposed and undertaken by the EU is thus a classic challenge for international economics. This holds true for both, integration of commodity and factor markets particularly through the Single Market of 1992, and for monetary integration and the problem of a common monetary policy for a union of rather diverse countries. It also extends to preferential trade agreements granted to the countries of Central and Eastern Europe (now accession countries) and the Balkan region.

In a major research effort, conducted in international collaboration with authors from other universities and partly funded by a research grant received from the European Commission, department members have developed a large-scale general equilibrium model for the Austrian economy, which is amenable to numerical implementation in order to simulate various aspects of internationalisation. The model covers all sectors of the economy, including a rich representation of government policies, state-of-the art intertemporal optimisation by overlapping generations of households and forward-looking investors, and product differentiation as well as economies of scale. It has been empirically implemented by means

of new calibration techniques, and it allows for numerical simulation of intersectoral reallocation and redistribution effects of trade policy and integration scenarios. Moreover, it offers a rigorous way to judge the overall welfare (efficiency) effects, both in the short- and the long-run, of a rich variety of reform policies that might be proposed with respect to the internationalisation of goods and labour markets. This is of particular importance, as policy makers and many existing policy evaluations tend to focus on short-run distribution and employment effects, with welfare and efficiency considerations playing a minor role, if present at all. The reason lies in the formidable modelling challenge involved in rigorously addressing welfare issues for an economy at large. Our model has been applied to Austrian accession to the EU, as well as to the upcoming Eastern EU-enlargement where a comparable model has also been implemented for the German economy, pointing to a significant welfare increase in both cases.

Department members (with a number of collaborators and in the context of EU funded research networks) have also analysed issues of trade policy in relation to Central and Eastern European countries and, more recently, in relation to the Balkan region.

The simulations carried out have revealed welfare gains for Austria from both, its own accession to the EU in 1995 and the upcoming eastern EU-enlargement. Being able to quantify expected welfare gains from policy steps of this kind on the basis of calibrated general equilibrium models is a key element of the excellence that the JKU Department of Economics has established. The results have not only found their way into international academic journals, but have also been of great importance in the process of policy formation.

6.1.2 Growth Patterns and International Economic Integration

An important strand in the recent international economics literature integrates growth theory with international trade, foreign direct investment and migration analysis. Research at our institute has contributed to this literature with the development and application of the general equilibrium simulation model mentioned above. In a different avenue of research, a series of contributions by department members combine Ricardian and neo-Schumpeterian approaches to the analysis of catching-up processes and international specialisation. These models were developed theoretically and have also been tested for their relevance in explaining historical patterns of catching-up experiences of Asian, Latin American and Southern European economies and, more recently, of Central and Eastern European economies. The approach develops insights which differ substantially from the more traditional approaches adopted in most of the current literature. This holds true for both, patterns of global growth as well as the implications of international economic integration on labour markets. The theoretical and empirical

analysis has been extended to allow for an endogenous consideration of foreign direct investment and migration flows.

6.1.3 Explaining the Cause and Implications of Trade Flows, Foreign Direct Investment and International Migration

The apparent resurgence of economic globalisation in the 1990s has spurred interest in the causes and consequences of trade flows and factor movements, both in the general public and in the academic world. The JKU Department of Economics has responded to this by a number of different research initiatives.

Several studies dealt with theoretical issues of trade policy, as well as various distributional aspects of a specific form of market internationalisation which has come to be known as international "fragmentation" or "outsourcing". This phenomenon has caught much attention in connection with recent observations on wage inequality. Up to this point, the papers are largely theoretical in nature, developing analytical tools based on the general equilibrium theory of international trade that offer an insightful perspective on these new forms of economic globalisation. Future research will shift the focus from pure theory towards a more policy-oriented perspective.

In a different strand of papers, we have conducted large scale empirical research on vertical product differentiation and specialisation in international trade structures, particularly on those evolving between the Central and Eastern European countries and those of the European Union. The dynamics of vertical specialisation has further been analysed also in relation to the evolution of productivity levels and to cost differentials between trading partners.

More recent research of the department in this area considers international migration. In addition to being an integral part in the above mentioned studies on EU enlargement, research by department members has also taken up migration on a theoretical level, taking a trade theory perspective and looking at the so-called "immigration surplus", as well as the associated distributional implications. We have shown specific conditions that need to be met for the host country to benefit from immigration, and the distributional consequences that come with it. Moreover, a number of econometric contributions have estimated the impact of migration flows on wages and employment in host and source countries. Department members have also conducted research aimed at estimating the migration potential in the wake of EU enlargement.

Finally, the JKU Department of Economics has also pursued research in this area in connection with dissertation and habilitation projects. This work has focused on the explanatory forces behind foreign direct investment (FDI) and on the relationship between FDI and trade flows, and it includes theoretical work as

well as econometric research. Moreover, it applies research based on the so-called "gravity approach" to explain the geographical pattern of international trade. Exploring these issues is of vital importance for a well-balanced policy stance with respect to international trade and investment.

6.1.4 Eastern European Countries in Transition

The breakdown of central planning regimes in Eastern Europe and the subsequent integration of their economies into international goods and factor markets has generated several new challenges for economists, both on a theoretical and an empirical level. For example, the sequencing of policy reform in all areas of economic policy and the associated historical examples, including both examples of success and failure, provide a rich ground for fruitful theoretical and empirical research. The above mentioned implications of internationalised goods and factor markets for transition countries' reform policies were in many cases crucial for both success and failure. The JKU Department of Economics has responded to these challenges in a number of different ways.

Michael Landesmann, who is also Research Director at the Vienna Institute for International Economic Studies (WIIW), has explored a number of aspects of development in Central and Eastern European economies (CEEs) and their positions in the European economy as a whole. The topics covered in his research include long-term processes of growth and structural change, corporate restructuring, catching-up in productivity and quality upgrading, the position of CEEs in vertically differentiated trade relations and in cross-border production networks, balance-of-payments positions and exchange rate regimes.

The above-mentioned modelling approach to the effects of EU enlargement has also been extended to explore several issues with a direct focus on eastern European countries. This includes the idea of extending Marshall-plan-like aid to these countries, as well as numerical general equilibrium modelling of catching-up, or convergence, which has a long tradition in growth theory. The work conducted in this direction is among very few in international economics where the new growth theory is put to use in a numerical and policy-oriented way to a practical problem. Research of this kind is of crucial importance to identify the potential of market-based catching-up strategies, as well as the role of economic policies aimed at correcting growth externalities in the areas of skill-formation and education.

6.1.5 Financial Markets

Certain developments on national and international equity, bond, credit and foreign exchange markets have become hotly debated issues in recent times. Different economic and political changes (increased globalisation on goods markets,

the deregulation of national financial markets and the liberalisation of international capital flows, amongst other things) have led to a dramatic increase in the amount and volume of financial transactions. In connection with behavioural changes of market participants, this has had profound effects on financial market uncertainty and volatility. It is often argued that financial markets became disconnected from economic fundamentals. For this and other reasons, they are often argued to exhibit market failures and inefficiencies.

Financial markets play a crucial role in stability and growth of individual economies and the world economy at large. Analyzing how the structural changes of financial markets affects their ability to transfer savings into funds for productive investment is an essential prerequisite for well-guided policies towards international capital flows, both on the national and the international level. In addition, serious research is needed in order to explore the consequences of a changing environment of high international capital mobility for corporate decision making as well as everyday life.

Of particular importance are the emergent financial market instabilities and financial crises and their impact on real economic activity (output and employment) as well as their consequences for soci(et)al developments in general. In view of the EU enlargement and increasing European integration, the understanding of financial markets will gain further importance and prominence.

Reflecting these developments in the international economy, the JKU Department of Economics has recently extended its research portfolio towards the analysis of financial markets. Research conducted so far has focused on the following topics: The economics of speculative attacks, the role of stock market developments as predictors of real activity, the efficiency of stock markets and the transmission of interest rate changes. In empirical work, the department has paid close attention to the application of state-of-the-art methods related to the analysis of macroeconomic and financial time series.

6.2 Future Research

International economics and finance will continue to be a key focus future ceMEP research, reflecting the continuing importance of practical policy problems in this area. The problems to be addressed, and the specific projects and methods to be pursued will build on the strengths and experience that members of the JKU Department of Economics have developed in this area through their past research.

- The research conducted on the basis of the applied general equilibrium model in the context of European integration carries a significant potential for extension and application to future steps of European integration, as well as other areas of economic policy. The specific research projects pursued

will obviously have to depend on the course of historical events, and on the evolution of general economic research in relation to these events.

- The modelling approach underlying the above-mentioned research on economic integration can also be extended to a numerical analysis of fiscal policy reform with special emphasis on economic growth and unemployment in the context of open goods and factor markets. In fact, such an extension has already been initiated by means of a project funded by the Austrian Science Funds, which started in October 2001. The project is motivated by a lack of welfare-oriented numerical analysis of policy reform in Austria, where economic policy is typically looked at through the lens of traditional macroeconometric models which defy a rigorous treatment of efficiency and distributional issues. In shifting the focus towards the distortions that certain fiscal instruments may induce in globalised commodity and factor markets, where consumers and households respond in an optimising way to market signals, applying computational general equilibrium modelling to fiscal policy reform is an important complementary effort to existing academic and applied research on the Austrian economy. This research is closely related to ceMEP research which focuses on public sector economics. Being funded by the Austrian Science Funds, the project has an exclusive academic orientation, and it is carried out in cooperation with researchers at other universities. The motivation and nature of the project, the current state of its research and publications as well as planned future research are described under <http://www.economics.uni-linz.ac.at/fwf>.
- Further theoretical as well as empirical research is also planned with respect to the welfare and distributional consequences of various forms of economic globalisation. The policy relevance of such research is evident. The specific issues to be addressed are international migration, including numerical work based on calibrated general equilibrium models, as well as international fragmentation and outsourcing. While past research has had a distinct theoretical orientation, future research is intended to take a more policy-oriented perspective. For instance, it will focus on appropriate policies towards inward- or outward-flows of FDI that are often associated with increasingly fragmented production chains.
- Regarding EU enlargement, international integration and growth processes, ceMEP members and a network of associated researchers will, over the coming years, pursue both theoretical and applied research in the area of international economic integration in general as it proceeds over product, capital and labour markets, and analyse in particular the process of EU enlargement as the EU grows from a union of 15 members to one of 25, and potentially 30 members. The approach taken will continue to be characterised by analysing the dynamics of structural adjustment, focussing

on the complementarity and substitutability of integration processes on the various planes (product, capital and labour markets). Future research will also analyse the impact of EU integration on the countries/regions left out of the current accession process, i.e. Europe's periphery, and attempt to understand, in the light of recent growth analysis and the economics of geography, patterns of agglomeration, peripherisation, development traps, etc.

- Concerning future research on international financial markets, there are several issues to consider: the microeconomic structure of financial markets, efficiency, volatility, predictability and dynamics of prices and returns, international financial market interrelations and contagion, inter- and supra-national institutions, exchange rate regimes, decisions in corporate finance on equity and debt offerings as well as monetary policy effectiveness, coordination and credibility.

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This is a selective list of recent publications that are relevant for the ceMEP research focus on "International Economics and Finance" as described above. It includes work where department members have been active, in a supervisory and cooperative manner, in dissertation and facilitation projects. Publications related to such projects which are authored by non-department-members are marked by [N]

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6.3.1 Relevant Research Projects or Participation in Research Networks

"Accession, differentiation and the impact upon trade and investment flows in an integrated Europe", EU Phare ACE research network, 1999-2000.

"Regionalism in South-East Europe", World Bank – Global Development Network project, 2001-2003.

"Technology, Economic Integration and Social Cohesion", EU TSER-TEIS project, 1998-2000.

"Global Economic Integration and Employment Policy", International Labour Office (ILO), 2000-2001.

"Macrotech: Integration of Macroeconomic and S&T Policies for Growth, Employment and Technology", EU Fifth Framework project, 2000-2002.

"FLOWENLA: EU Enlargement: The impact of East-West migration on growth and enlargement", EU Fifth framework project, 2001-2003.

"Technological competition, industrial specialization and European integration", FFWF project, 1996-1999.

"International economic integration, catching-up and labor markets", OENB Jubilee Foundation project, 1998-2000.

7 Resources

Given the close institutional association of the ceMEP with the JKU Department of Economics, funding of its present and future research and its general resource endowment is largely a matter of funding the JKU Department of Economics. This does not rule out cooperation with other JKU departments. Indeed, such cooperation will be actively pursued where complementary excellence and resources allow achieving synergies.

7.1 Personnel

At the present, the JKU Department of Economics has 6 full professors, and 12 researchers. About half of the researchers are on a senior level with permanent appointment, the rest are junior faculty with temporary appointment.

Given the complexity of the modern economics research agenda, excellent results can only be achieved if scientists are embedded in a suitable environment within a group of researchers with similar orientation. Though individual creativity and diligence are indispensable prerequisites for success, the possibility of collaborating with colleagues and discussing ideas with them represents an important background for individual activities. Contacts to partners in other institutions, which are well established in the department, are a highly imperfect substitute for such a local background. In this respect, the present size of the academic staff of the Department of Economics is certainly at the lower limit of what is necessary for the ceMEP, given the research agenda described above, and is well below the size of comparable institutions in other universities.

In some important areas covered by the ceMEP, the current number of researchers is indeed low and more regular staff is required to guarantee the status of excellence in the future. Though the department is active in raising funds for the financing of temporary assistance for specific projects, an extension by two positions for full professors and four positions for junior and senior researchers can be regarded as a minimum. In order to maintain high quality standards, there has to be a balance between temporary staff, hired mostly for specific research projects, and long-term or permanently employed scientists. In the environment generated by the recent institutional reform, the ceMEP will consistently strive for a well-balanced structure of its staff.

7.2 Computing Resources

Research pursued in the ceMEP has a distinct empirical focus in all fields described above. This is true particularly for Labour Economics, but parts of the

International Economics and Public Economics research agenda similarly rely on complex statistical and econometric methods, as well as numerical techniques for state-of-the art general equilibrium modelling. Heavy use of individual panel data on a very large scale reinforces this point. Advanced computing technology must, therefore, be readily available for the ceMEP to successfully compete in the international academic arena. Computing resources are needed in three different dimensions:

- **Hardware:** This includes desktop computers appropriate for enduring work on screens, as well as mobile notebooks for international collaboration and workshop presentations. Moreover, it includes advanced printing facilities.
- **Software:** Beyond the usual office software, the ceMEP research agenda requires availability of advanced statistical and econometric software, such as STATA, EViews, and RATS, as well as software geared towards the numerical solution of general equilibrium systems, such as for instance GAUSS and GAMS. Moreover, theoretical research relies on mathematical packages, such as Mathematica and MAPLE. Licensing of all software needs to be tuned to the size of the ceMEP research team. Synergies with other empirically oriented Centres of the JKU should be pursued.
- **Technical support:** The size of the ceMEP team and the level of sophistication in the required computing environment imply the necessity of a full-time local technical support team in charge of continuous maintenance of hardware and software, including local area networks and efficient internet and electronic communication. Decentralised responsibility on the part of individual researchers is highly inefficient, as it duplicates work and distracts valuable time and effort from the substantive aspects of ceMEP research. Moreover, securing continuous access to and maintenance of data sets by means of such large scale technical support will significantly improve empirical research to be carried out under the ceMEP.

7.3 International Contacts

The ceMEP places great emphasis on involvement in international research networks, as well as regular conference appearances and research visits on an international level. This requires two types of resources:

- **Outgoing dimension:** The ceMEP must rely on funding of extended research visits by its members to research institutions abroad, including in particular the possibility of sabbatical leaves at regular intervals. Moreover, regular conference participation by ceMEP members is of vital importance for ceMEP, not only to be recognised by the international scientific community,

but also for ceMEP research to become subject to international academic criticism and exposure and to benefit from the usual network externalities.

- Incoming dimension: At the same time, the ceMEP must be in a position to attract visits from outside researchers. This, in turn, means a steady flow of international speakers appearing in the regular research seminar run by the JKU Department of Economics. In addition, the ceMEP needs to be enabled to organise international workshops in those areas where their own research is conducted on a sufficiently large scale.

At the present, the Department of Economics is seriously underfunded in all of these respects. For the sake of a successful continuation of its research under the ceMEP, additional funds are indispensable.

7.4 Library

No serious centre of excellence can work without a decent library environment, regarding both academic journals and monographs. In the past, the JKU Department of Economics was, despite limited resources, able to establish and maintain a departmental economics library which is professionally organised by expert staff. Up to the year 2000, the stock of journals and monographs could be called reasonable, if incomplete. However, recent budget cuts in connection with rising journals prices have led to a critical shortage, with severe implications for ongoing research. Despite repeated efforts undertaken on the departmental level, the library falls short of standards that are indispensable for an academic centre of excellence of the kind described above. In this connection, it needs to be stressed that economics takes a special position within the social sciences in that scientific communication in economics largely resembles the hard sciences. A significant part of publications appears in refereed journals, where publishers are known to follow a pricing policy which is devastating for library budgets. The situation seems even worse than in the natural sciences in that the need to acquire scientific monographs has hardly diminished in economics. In recent years, this has led to a situation where the JKU Department of Economics has no longer been able to afford even the most important research monographs, let alone the most important new journals.

7.5 Office Space

The JKU Department of Economics already has a severe shortage of space, both for its library and its staff, particularly for part-time research assistants. In line with the increase in personnel necessary to achieve a critical size of the ceMEP,

additions to the staff on various levels require that appropriate offices should be made available. In addition, office space should be made available for temporary researchers and visiting faculty.

7.6 Outside Funding

A centre of excellence, its academic orientation and affiliation to a public university notwithstanding, should avoid a strategy whereby its entire funding relies on the host university budget. Therefore, the ceMEP will continue what the JKU Department of Economics has already done in the past, namely to relieve its internal budgetary constraint by drawing on outside funding, where priority will be given to funding institutions geared towards fundamental and academic research, such as the Austrian Science Funds or the Austrian National Bank through its "Jubiläumfonds", or comparable domestic or international institutions. These sources are preferable for the ceMEP on two accounts: firstly, they offer sufficient flexibility in terms of substantive orientation and methodology. Secondly, their application and selection procedures feature well established systems of peer reviews which are helpful complementary devices for the ceMEP's internal allocation mechanisms.

Providing solutions to economic problems on the regional and national levels leads to applied research focussing primarily, though not exclusively, on public policy issues. This contributes to establishing the ceMEP as an important regional and national player through contribution of its theoretically based expertise. It should also facilitate additional outside funding from other institutions which the ceMEP will actively pursue. However, such funding must not infringe upon or compromise the academic standards described as guiding principles for the ceMEP in the introduction above.

As evidenced by the above description of past research, department members have repeatedly shown their willingness and ability to attract outside funding. Judged by past experience, significant outside funding can also be expected for future ceMEP research. However, as with the JKU Department of Economics in the past, ceMEP will be aimed at providing the necessary resource base for academic research which, for whatever reason, is not amenable to outside funding. Being able to draw on outside funding, in itself, should not be a decisive criterion for any one research endeavour pursued under the ceMEP.

Details of a balanced strategy of funding ceMEP activities through both, outside funding initiatives by ceMEP members and participation in the JKU budget, will have to be worked out between the ceMEP director (or department chairperson) and the governing bodies of the JKU.

8 Contact

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