THE IMPACT OF A CHANGE IN PROTECTION RATES ON WAGES AND EMPLOYMENT: URUGUAY, 1981-1985

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Recent labor literature argues that the existence of non-competitive wage differentials can justify activist industrial and trade policy. Welfare may be improved expanding employment in high-wage sectors at expenses of low-wage sectors.

However, the success of the policy interventions depends critically on the response of wages and employment to the policy. If the impact on wages dominates the impact on employment, the policy may not have the desired effect of improving welfare.

This paper sheds light on this issue examining the effect of a change in protection rates on manufacturing wages and employment in Uruguay between 1981 and 1985.

Our results suggest that the impact on wages of a change in protection rates is larger that the impact on employment in the short run. However, this result is not conclusive since the estimated coefficients have large standard errors. However, in the long run our findings are more definitive: the response of employment to a change in protection rates is larger that the response of wages.

UN MODELO DE ELECCIONES DISCRETAS PARA ESTIMAR LA DISPOSICIÓN A PAGAR POR VIVIENDA SOCIAL

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El objetivo de esta investigación de estimar la máxima Disposición a Pagar (DAP) por diferentes soluciones de vivienda social, suceptibles de ser ofreci-das en programas sociales. Se desea establecer los determinantes de la dispo-sición a pagar, según las principales características económicas de los demandantes de éstas, en particular del nivel de ingreso familiar, de la estructùra etaria y demográfica de la familia, y otras características relevantes respecto a la situación habitacional y de acceso a servicios que en la actualidad enfrenta la familia. En resumen se desea estimar el valor que para los deman-dantes tienen algunos atributos de estas viviendas, tales como tamaño y localización. Las ecuaciones estimadas para la disposición a pagar en conjun-to con los parámetros estructurales estimados son utilizadas para estimar demandas por diferentes soluciones de vivienda social.

Se aplica la metodología de Valuación Contingente en conjunto con una especificación econométrica de elección entre alternativas discretas a una muestra aleatoria de 1 660 familias representativa de los grupos de menores ingresos. El análisis econométrico, a través de un proceso de preferencias reveladas, procede a estimar los parámetros tanto de las funciones de utilidad como de las restricciones enfrentadas por las familias. Estos parámetros estructurales forman la base para obtener tanto las funciones que explican la disposición a pagar como para obtener las curvas de demanda para las distintas soluciones de vivienda consideradas.

THE AFTERMARKET PERFORMANCE OF INITIAL PUBLIC OFFERINGS IN LATIN AMERICA

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The study extends the international evidence on initial public offerings (IPOs) and is the first comprehensive analysis examining new issues in the Latin American Countries of Brazil, Chile and Mexico. Since Chile uses an suction process to go public while issues are offered at a fixed price in Brazil and Mexico, interesting comparisons based on the method of going public emerge. Further, both Chile and Mexico have been involved in massive privatization programs. A large proportion of the Chilen new issues were due to privatiza- tion . This allows an examination of IPOs involved in privatization versus non-privatization programs. The results provide evidence consistent with previous empirical findings that report short-term excess returns associated with initial public offerings. However, in contrast to the findings of Ritter (1991) documenting significant overpricing of U.S. initial public offerings in the long-run, there is no comparable pattern in the three Latin American countries studied.

PROPIEDADES TEMPORALES Y RELACIONES DE COINTEGRACIÓN DE VARIABLES NOMINALES EN ARGENTINA

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La persistencia, por periodos prolongados, de desalineamientos en variables nominales como las tasas de interés, de devaluación y de inflación ha sido tomada como un indicador de la viabilidad a largo plazo de los distintos programas de estabilización. Este trabajo propone explorar las propiedades temporales de estas variables y la relación de largo plazo entre las mismas. Para tal fin se utilizan las técnicas de cointegración vectorial desarrolladas por Johansen (1988) y Johansen y Julius (1990) en el periodo junio de 1976 - diciembre de 1991. Si bien podría haber ocurrido algún cambio en el comportamiento de estas variables luego del plan de Convertibilidad, la relación de cointegración más perdurable en la muestra ha sido la de la tasa de interés con la de la inflación. Asimismo, los desequilibrios en dicha relación de largo plazo tienden a retroalimentar a la tasa de inflación y a incrementar la de devaluación.

NASH EQUILIBRIUM IN A SIMPLE EFFICIENCY WAGE MODEL

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Efficiency wage models have achieved great influence, both as models of the microfoundations of unemployment and as the basis for empirical studies of the inter-industry wage structure. The best-known of this models, Shapiro and Stiglitz (1984), assumes identical firms and identical workers who dislike putting forth effort on the job. Firms are unable to monitor worker effort perfectly, so in equilibrium firms must offer a wage above the market-clearing level to deter shirking. This equilibrium is characterized by a single economy-wide *efficiency wage* and an absence of shirking. Since the motivation for paying the efficiency wage in the fact that workers shirk, it is unappealing that no shirking occurs in equilibrium. An objective of this paper is to construct a more realistic model in which some, but not all, workers shirk in equilibrium. To accomplish this we introduce worker heterogeneity; specifically, we assume that workers differ with respect to disutility of effort.

When we do this, we find an interesting result; namely, that symmetric pure-strategy Nash equilibria do not exist in our model. That is, a single *efficiency wage* cannot be sustained as an equilibrium. We probe that a Nash equilibrium does not exist an involves shirking by some workers. It is a dispersion equilibrium, i.e., an equilibrium characterized by nondegenerate distribution of wage offers across firms. Dispersion equilibria have been extensively discussed in the search literature but ours is the first discussion of such equilibria in an efficiency wage model with identical firms. A future version of the paper (done by June) will also examine the welfare and comparative statics properties of dispersion equilibria in the efficiency wage context.

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IMPLEMENTACIÓN DE SOLUCIONES ESTABLES PARA EL PROBLEMA DE ASIGNACIÓN BILATERAL SIMPLE

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El problema de asignación bilateral simple ha sido recientemente analizado por diversos autores. Dados dos grupos disjuntos de agentes, se pretende formar parejas compuestas por un individuo de cada lado del mercado. Situaciones con tales características se producen en un elevado número de mercados: asignación de gerentes a empresas, abogados de oficio y casos pendientes de juicio, etcétera.

Analizamos la obtención de soluciones estables en estos tipos de mercados. Ello se justifica porque tales asignaciones satisfacen la propiedad de racionalidad tanto a nivel individual como colectivo; propiedades ambas de deseable cumplimiento en todo comportamiento social.

Nuestro interés no se centra únicamente en asegurar la existencia de tales tipos de mecanismos en relación al problema de asignación bilateral simple. En este artículo se intenta presentar mecanismos lo más sencillo posible que conduzcan a los resultados deseados; entendida dicha sencillez desde el punto de vista de la información requerida a los agentes en la aplicación del mecanismo.

ESTIMACIÓN DE LA CAPACIDAD PRODUCTIVA EN MEXICO, 1960-1990

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El análisis de los requerimientos de ahorro e inversión compatibles con determinadas metas de crecimiento ha sido abordado regularmente por medio de métodos econométricos y de series de tiempo. Sin embargo, su aplicación en el caso de México, en donde el crecimiento económico de los últimos años, se ha visto perturbado severamente con procesos recesivos, produce valores de la capacidad productiva instalada y potencial que sobre-salen significativamente de las medias estadísticas, por lo que su empleo introduce sesgos de entrada a las estimaciones.

Una opción a este problema, se encuentra en los métodos y técnicas de optimización sobre conjuntos, ya que poseen la característica de ubicación de soluciones en la frontera de los conjuntos de factibilidad que definen, por lo que diochos métodos se perfilan como idóneos para el análisis de situaciones económicas en las que se presentan valores abruptos. el trabajo resume esta metodología y la aplica al caso de la economía mexicana para el período señalado.

TRATAMIENTO DE LAS
PREDICCIONES CONFLICTIVAS:
EMPLEO EFICIENTE
DE LA INFORMACION EXTRAMUESTRAL

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Partiendo de un modelo ARIMA univariante como modelo estadístico para la realización de predicciones, la propuesta de este trabajo se centra en cómo incorporar, de manera eficiente, la información contenida en las predicciones alternativas que se obtienen a partir de la opinión de un experto o bien mediante modelos econométricos, de forma que se puedan conjugar las propiedades a corto plazo de los modelos ARIMA con la senda de largo plazo proporcionada, fundamentalmente, por los modelos econométricos. Para incorporar la información extramuestral se contempla cualquier conjunto de restricciones lineales sobre la evolución futura de la serie y se permite la introducción de incertidumbre sobre éstas. Asimismo, se admite la posibilidad de que exista correlación entre los errores del modelo ARIMA y la incertidumbre sobre las restricciones. El problema se resuelve al obtener la *predicción restringida* por mínimos cuadrados generalizados (MCG). En este marco se deriva la inferencia necesaria para aceptar la compatibilidad de ambos conjuntos de información. Por último, como aplicaciones, se muestra como la solución propuesta se puede emplear para estimar valores ausentes (*missing values*), así como para mejorar procedimientos de análisis cuando se dispone de un conjunto de predicciones conflictivas entre si.

A SOLUTION TO THE ENVY-FREE SELECTION PROBLEM IN ECONOMIES WITH INDIVISIBLE GOODS

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We consider the problem of selecting envy-free allocations in economies with indivisible objects and cuasi-linear utility functions. We study the set of envy-free allocations for these economies and characterize the minimal amount of money necessary for its nonemptiness when negative distributions of money are not allowed. We also find that, when this is precisely the available amount of money, there is a unique way to combine objects and money such that these budles may form an envy-free allocation. Based on this combination, we propose a solution that selects a unique utility profile for any economy. When there is more money than is needed to solve the envy-free problem, our solution allocates it equally and we retain the uniqueness of the utility profile. We show that when some agents leave the economy, the set of envy-free allocations for the new economy may offer new possible combinations of objects and money. Based on this, we argue that one should not expect a solution to this selection problem to satisfy any property related to consistency, as has been suggested in the literature.

ON THE CONVERGENCE OF BAYESIAN PRIORS TO RATIONAL EXPECTATIONS IN COMPLETE MARKETS

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IMPA

The purpose of this paper is to study the convergence to rational expectations of arbitrary Bayesian priors in infinite horizon economies with complete markets. The main idea explored in the paper is that if agents can trade over future events then they must have the same measure zero sets. And therefore, by a result of Blackwell and Dubins their posteriors must also converge. Some of the ideas in this paper can be traced back to Hayek. He says that equilibrium prices reveal information to market participants. In our case this means revealing measure zero sets which is enough to guarantee convergence to rational expectations.

A COINTEGRATION APPROACH TO THE EFFECTS OF EXTERNAL SHOCKS ON THE STOCK EXCHANGE: THE EXPERIENCE OF CHILE AND MEXICO

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It is well established, both theoretically and empirically, that domestic and external factors affect the behavior of the stock exchange. However, no study has yet determined if such an influence is a well defined long-run relationship or if it is merely speculative. This paper is fopcused precisely, to analyze the impact of external factors on two recently booming stock exchanges, the Chilean and the Mexican *bolsas*. By implementing Engle and Granger's (1987) cointegration approach, we test if there exists a long-run relationship between the *bolsas* and two major external variables: the Dow-Jones stock index, the price of copper –for the Chilean case– and the price of oil –for the Mexican case. Later on, in order to identify if this relationship is permanent or merely speculative, we apply the cointegration technique separating each series into its permanent and transitory components.

COMMODITY STABILIZATION FUNDS

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Commodity stabilization funds are hard-currency savings to protect against
a fall in income from commodity exports in the presence of borrowing
constraints. This paper develops the optimal rules for deposits in and with-
drawals from such a fund by using a benchmark model of precautionary
saving with liquidity constraints (Deaton, 1991). The paper shows that the
optimal stabilization fund is small. For the Chilean Copper Stabilization
Fund, We show that the actual accumulation of foreign assets has been much
larger than required by the benchmark model. Over long periods, the copper
fund should contain less than one month of exports. We also use the model
to find the optimal depletion of the windfall gain oil exporters received as a
result of the Persian Gulf crisis, amounting to about 4 months of average
exports. We find that, on average, such a windfall gain should be depleted in
about 4 years. In the long run, an oil exporter should keep a small fund,
significantly less than one month of oil exports. But, higher than predicted
funds can be justified on the basis of externalities associated with the fund,
frictions in the economy, and/or relaxing the requirement that the country is
borrowing constrained.

A DYNAMIC GENERAL EQUILIBRIUM MODEL OF BUREAUCRACY AND BRIBES: IMPLICATIONS FOR GROWTH AND POLICY

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This paper studies the relationship between corruption and economic growth in a dynamic competitive general equilibrium model with endogenous bribe activity in an environment with imperfect observability of bribe activity. The economy is populated by a government and by bureaucrats, non-bureaucrats and firms. Non-bureaucrats can either consume or invest in physical capital. Bureaucrats can either consume, invest or engage in bribe-taking behavior. Government behavior is given by the choice of socially optimal penalty functions on processed briber bureaucrats. We show that in stationary equilibrium, the greater the myopia of bureaucrats, the greater the equilibrium bribe. We also find that inceases in penalties to corrupt bureaucrats (stemming from changes in the government's preferences) lead to lower equilibrium levels of capital stock to bureaucrats and non-bureaucrats, lower welfare to bureaucrats, lower welfare to non-bureaucrats for developing economies but higher welfare to non-bureaucrats in developed economies. Also, increases in the probability of detecting bribe activity (i.e., advances in the institutional-monitoring technology) lead to higher equilibrium levels of aggregate capital stock. Thus, our results suggest the desirability of shock-therapy (institutional) versus gradual (changes in penalty rates) corruption reform packages.

CUSTO DA PROTEÇÃO DE ÁREAS COM INTERESSE AMBIENTAL NO ESTADO DE SAO PAULO

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A Constituiçao Paulista, no seu Artigo 200, determina: "O Poder Público Estadual, mediante lei, criará mecanismos de compensação financiera para Municípios que sofrerem restrições por força de instituição de espaços territoriais especialmente protegidos pelo Estado". Essa prescrição deixa em aberto a definiçao do que sejam as restrições referidas e os critérios de compensação financeira. Os critérios a serem seguidos para a compesação financeira aos municípios ainda estão em aberto. Este artigo tem por objetivo analisar esta última questão, discutindo princípios e simulando algumas situaçoes.

O COMÉRCIO INTERNACIONAL
INTRA-INDÚSTRIA: O CASO DO BRASIL

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O objetivo do trabalho é analisar o padar de comércio intra-indústria brasi-leiro sob vários aspectos. São apresentados índices de comércio intra-indús-tria a nível de indústria, a nível do país como um todo e no comércio bilateral. Esses índices mostram uma crescente participação do comércio intra-indús-tria brasileiro, situandose por volta de 40% do comércio total de manufactu-rados ao final do período analisado. Com base em desenvolvimentos recentes da teoria do comércio e utilizando dados de corte transversal referentes às características das indústrias brasileiras e características dos parceiros comer-ciais, tenta-se uma explicação para esse comércio.

MERCOSUR, COMERCIO Y PROTECCIÓN EN ARGENTINA Y BRASIL

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El objetivo de este trabajo es contribuir a la identificación de las *condiciones Iniciales* relacionadas con el Mercosur. Se trata de un trabajo empírico orientado a caracterizar el comercio internacional de la subregión y la estructura de protección de Argentina y Brasil. Se intentó básicamente proveer elementos, en forma de *building blocks*, para evaluar algunas dimensiones concernientes a los países grandes. Aunque este trabajo busca obtener una radiografía de algunas dimensiones microeconómicas de las "condiciones iniciales", no puede dejar de señalarse que existen importantes precondiciones macroeconómicas para que estos acuerdos transmitan credibilidad a los agentes ecoómicos, resultado en decisiones de inversión. Entre ellas, quizás la más notable concierne al realismo de la paridad cambiaria, permitiendo que las ventajas comparativas de cada uno de los países puedan revelarse adecuadamente.

EXTINCTION, POLLUTIONAND
THE SUSTAINABLE USE OF EXHAUSTIBLE AND
RENEWABLE RESOURCES

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Single ownership of natural resources is common in many developing countries and socialist economies. The sole owner is usually the state or society at large, and governments are responsible for either distributing exploitation rights or engaging in exploitation through their own corporations. Under this circumstance, the notion of externality may not fully explain pollution problems existent in these nations.

This paper studies the case where a country owns both exhaustible and renewable resources, and attempts to maximize its welfare. The resources are either perfect or imperfect substitutes. Initially, exhaustible resource extraction does not affect the renewable resource, and sustainable growth is attainable. A factor of pollution flowing from the extraction of the non-renewable resource into the growth of the renewable resource is introduced. The continuous exploitation of the exhaustible resource leads to the "optimal" extinction of the renewable resource, and sustainable growth is no longer reached. Regulation from a supra governmental agency such as an multinational institution may prove to be of utmost importance, if sustainability is to be achieved.

The paper is divided into six sections. Section two provides a brief survey of the relevant literature. Section three presents the model without pollution. This factor is introduced in section four. Section five provides examples of the situation described above, and discusses some possible approaches for attaining sustainable growth. The final section contains the concluding remarks.

MARKET FUNDAMENTALS *VERSUS* SPECULATIVE BUBBLES: A NEW TEST APPLIED TO THE GERMAN HYPERINFLATION

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We develop and apply a new method of testing for speculative bubbles. The method is designed to overcome two well-known problems in the identification of bubble phenomena - the problem of distinguishing any type of bubble from an expected future change in market fundamentals and the problem of detecting a periodically-collapsing bubble when the residuals of the fundamentals regression are integrated. We propose the strategy of estimating an endogenous switching regime model of market prices, partialling out expected changes in fundamentals and carefully analyzing the properties of the residuals. We apply this strategy to the study of German hyperinflation in 1920s. We find that we cannot reject the existence of a collapsing bubble during that hyperinflation. A particular type of collapsing bubble is estimated directly and found to be significant.

RANKING, UNEMPLOYMENT
DURATION, AND WAGES

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This paper develops a model of the joint determination of unemployment, the distribution of unemployment durations, and wages. The model is based on one central assumption: when firms receive multiple acceptable applications, they hire the worker who has been unemployed for the least amount of time. We refer to this assumption as *ranking* and contrast is throughout to the assumption of random hiring, or *no-ranking*. We show that this assumption, when embodied in a labor market with job creation/destruction and matching, has a number of important implications. First, in addition to the obvious result that the exit rate from unemployment is a decreasing function of duration, we show that the effect of duration is stronger the higher the rate of unemployment. Second, with the wage depending on the distributions of prospective unemployment durations, the presence of long term unemployed, per se, has little effect on wages. Third, looking at the relation between the wage and the aggregate level of unemployment, and comparing ranking to the case of no-ranking, the wage moves less with the level of unemployment, but more with the change in unemployment.

INDETERMINACY OF EQUILIBRIUM IN
DYNAMIC MODELS WITH EXTERNALITIES

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In this paper we study the indeterminacy of equilibria in infinite horizon
capital accumulation models with technological externalities. Our investiga-
tion encompasses both models with bounded and unbounded accumulation
paths, and models with one and two sectors of production. Under reasonable
assumptions we find that equilibria are locally unique in the one sector
economies, at least as long as cycles are not present and trajectories are
therefore monotone. On the other hand we show (by means of an example)
that persistent oscillations are possible when the external effect is particularly
strong and capital accumulation is bounded. In this case indeterminacy may
be present as we are unable to rule out the existence of a continuum of
equilibria converging to the cycle. The situation is different in economies with
two sectors of production. Here it is very easy to construct analytical examples
where a positive external effect induces a two dimensional manifold of
equilibria converging to the same steady state (in the bounded case) or to the
same constant growth rate (in the bounded case). For the latter we also point
out that the dynamic behavior of these equilibria is quite complicated and
that persistent fluctuations in their growth rates are possible.

OPTIMAL TWO-SIDED AND SUBOPTIMAL ONE-SIDED STATE-DEPENDENT PRICING RULES

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This article is motivated by the prominence of one-sided Ss rules in the recent macroeconomic literature and by the strict conditions necessary for their optimality. It aims to assess how far are suboptimal one-sided rules from optimal two-sided pricing policies. We use two measures in that evaluation. The first is the relative additional cost of adopting a suboptimal one-sided Ss rule, instead of the optimal two-sided rule. The other is expected time until reaching the less active barrier for the first time. Using parameters based on real economy data, we find that suboptimal one-sided rules and optimal two-sided rules are relatively close. Since the additional cost involved in adopting the simpler and suboptimal one-sided rule rather than the optimal two-sided one is relatively small, it is even possible that the one-sided rules are used in practice. What is surprising about our results is that the suboptimal one-sided Ss rule emerges as closer to optimal rule for a low inflation country, like U.S., than for a high inflation country, as Brazil. The main macroeconomic implication of the near-optimality of the one-sided rule is a considerable asymmetry in the aggregate price rigidity, which generates in turn asymmetric money effects.

CREDIT SUBSIDIES, INFLATION AND THE LAND MARKET IN BRAZIL: A THEORETICAL AND EMPIRICAL ANALYSIS

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The paper contains a theoretical model of the determination of land prices and land rents in Brazil, including the effects of subsidies to agricultural credit (a corn stone of agricultural policy during most of the 1970s) and inflation. The model takes into account the fact credit subsidies and inflation attracts agents to the land market that do not have knowledge of the agricultural production function. In addition to those equity investors, the model considers other two types of agents: agricultural producers with enough capital to bid in the land market and renters that do not have capital to bid in the land market but do have access to the agricultural production function. Each of these agents maximize a two period utility function subject to the constraints imposed by their knowledge, capital endowments and the existence of transaction and information costs. Comparative static results are obtained and a empirical model specified to test the hypothesis suggested in the theoretical analysis.

Reduced form equations of the price and rental value of land are estimated. The results indicate that during the 1970s credit subsidies were largely responsible for increases in land prices, while in the 1980s macroeconomic imbalances played a more important role. Despite these effects the terms of trade between agricultural and non agricultural goods has also a strong influence of the behavior of the price of land.

THE GROWTH AND WELFARE CONSEQUENCES OF DIFFERENTIAL TARIFFS WITH ENDOGENOUSLY-SUPPLIED CAPITAL AND LABOR

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This paper analyzes the impact of differential tariffs on consumption and investment in a specific factors model of a small open economy in which capital is accumulated over time. Particular attention is devoted to the welfare aspects, highlighting the cost of the intertemporal distortions produced by protective trade policies. Several specific welfare propositions are obtained. First, tariff protection is shown to create short-run benefits but long-run costs in welfare. Secondly, the second-best policy for the two tariffs is characterized. Finally, several propositions summarizing the implications of our analysis for tariff reform are derived.

EXPLAINING FORMAL SECTOR ABSORPTION OF YOUNGER URBAN POPULATION

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The purpose of this paper is to empirically test whether education affects placement of Venezuela's younger urban labor force in the modern sector of the economy. This inquiry stems out of present concern over patterns of modern sector absorption of the country's growing younger population, and the question as to whether increased investment in schooling and more specifically technical schooling, will increase the likelihood of absorption. A logit model has been used to investigate this issue, and a number of covariates have been added to control for other factors that may also affect localtion in the modern sector. These include age, socio-economic backround, sex and being head of household.

INTERNATIONAL CAPITAL MOBILITY IN A DYNAMIC GENERAL EQUILIBRIUM MODEL OF INVESTMENT, SAVING AND EXTERNAL DEBT

Carlos Budnevich
CIEPLAN

A basic theme is the theory of internationalo trade has been to study welfare gains and income redistributions caused by trade liberlization. This paper analizes in a dynamic overlapping generations model with adjustment costs in accumulating capital, the intergenerational redistributions and changes in welfare caused by the opening of the capital account of a small economy. After presenting an examination of the dynamic properties of the model for the closed economy case, we study the resulting evolution of the current account, the accumulation of capital, the real wage behavior and the adjustment of asset prices, when capital flows are allowed.

THE THEORY OF UNION-FIRM BARGAINING AND THE INFLUENCE OF PRODUCT MARKET POWER AND PRODUCTION TECHNOLOGY ON SYSTEMATIC RISK

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The relationship between the CAMP firm *beta* and the firm's microeconomic decisions is studied by a model under uncertainty, which combines the feature of an ex ante 'inputs substitutable' production technology and the existence of a specific union which may bargain over different economic dimensions of the firm. It is shown that the earlier findings of a relationship between the firm *beta*, the firm product market, and the labor-capital ratio may be reinforced through the indirect channel of labor market bargaining, but the relationships becomes more complex, and heavily depends on the scope of the union-firm bargaining process. This yields the empirical prediction that any proper estimation of the determinants of firm *beta*, should control for firms in the sample being unionized.

MANAGERS AND SOCCER PLAYERS:
WHAT IS THE DIFFERENCE?

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An explanation is provided for the differences between contracts signed by sport stars and those signed by managers and other singular workers. In particular, the inclusion of a buy out free in the former is explained as the consequence of the particular information structure that the activities of sports stars generate. These activities are publicly observable and may provide the rival clubs with more information than to the star's own club. The informational asymmetry that is present in the case of other players is thus reversed. A buy out fee acts as a device which protects the incumbent club from future, better informed competitors.

CURRENCY SUBSTITUTION UNDER NON-EXPECTED UTILITY: SOME EMPIRICAL EVIDENCE

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This paper derives and tests the restrictions implied by an optimizing model of currency substitution under nonexpected utility using quarterly data for Israel from 1978 to 1988. We find that the elasticity of intertemporal substitution is less than one, the elasticity of currency substitution is greater than one, relative risk aversion is about seven, and the elasticity of currency substitution is greater than the intratemporal elasticity of substitution between consumption and liquidity services. In most cases the evidence supports the hypothesis of nonexpected utility as well as the inclusion of liquidity services in the representative agent's objective function. The methodology of this paper can be applied to other interesting cases of currency substitution.

PUBLIC CAPITAL AND ENDOGENOUS GROWTH IN AN OVERLAPPING GENERATIONS MODEL

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We present a model that allows for unbounded sustained grout in the context of the Diamond (1965) model even when the technology is convex. We have modified the standard model by assuming that, besides private capital and labor, a new input is used in the production process. This new input, called public capital, has the nature of the public good and is financed by the consumers through Lindahl prices. Public capital is both used as a given input by firms (a positive externality), and consumed as a public good by all existing consumers at each time. Young consumers decide and finance, at each period, the amount of both private and public capital they want to enjoy when old, but they only get return from the private one. Public capital is transferred to the next generation at zero cost, since public capital is owned by all people. The transfers of public capital from older to younger generations allows unbounded growth in the convex technology case, but it is not essential for the persistency of growth. What it turns out to be decisive is the distribution of the return from public capital between young and old agents. If young agents get some *public profits*, then it is possible to obtain unbounded growth, but this is impossible if they get none.

We show existence and uniqueness of equilibrium for the economy, and state necessary conditions for the existence of *poverty traps* and unbounded growth. We also show that population size (constant in this model) is a positive factor for enhancing growth if the economy displays increasing returns, but it is a negative one if the economy exhibits decreasing returns in all productions factors. With constants returns, the population size is neutral for growth. By means of a Cobb-Douglas example, we show that our model displays all the usual types of paths encountered in the literature on endogenous growth and increasing returns.

EFFICIENCY AND PRODUCTIVITY IN THE PERUVIAN CEMENT INDUSTRY: A NON-PARAMETRIC APPROACH

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This paper examines the efficiency and the productivity growth in the Peruvian cement industry in a multiple input - single output framework. Productive efficiency measures are calculated by use of the non-parametric Data Envelopment Analysis (DEA) method. The DEA approach defines a non-parametric best practice frontier which may serve as a benchmark for efficiency measures. Productivity growth is measured by means of the Malmquist index. The Malmquist index is the radio between Farrel measures for a production unit which for technical efficiency at two points in time in measured relative to two different frontiers. The calculation of the Malmquist index is based on the efficiency measures derived from the DEA-model.

   Efficiency as well as productivity comparisons are made between the different cement plants during a period of 17 years. The study indicates relatively small differences between input saving and output increasing measures and that the ranking of the individual units remains fairly constant during the different years. As for productivity change, we find an average annual productivity growth of approximately 0.3 per cent when comparing the development between 1970-1976 with 1980-1986.

DEBT BUYBACKS: HOW GOOD A SOLUTION ARE THEY TO THE DEBT CRISIS?

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A general model is built which reconciles some of the points raised in the literature on debt buybacks. The model incorporates investment incentives and it addresses the question of the insurance value of reserves. It is shown that results preciously found in the literature result from ommiting the modeling of either of these effects, and are strongly dependant on assumptions made on certain parameters. The conditions that determine whether or not buybacks are an attractive solution from the point of the debtor nations are derived. Additionally it is shown that a debt buyback will always lead to an increase in investment and a reduction in the optimal foreign currency reserves holdings, independently of the source of the resources used for the buyback. With a buyback out of current resources, optimal reserves levels fall by more that what is used for the buyback, releasing extra resources for investment purposes.

POLITICA MONETARIA Y MERCADO DE ACCIONES

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GRADE

Una explicación muy popular de las fluctuaciones en los precios de las acciones se relaciona con la política monetaria, en especial en lo que se refiere a las variaciones en la oferta monetaria. En su forma más simple el razonamiento es que cuando el Banco Central incrementa la oferta monetaria a una velocidad mayor a la normal, el público se encuentra con efectivo que necesita para transacciones corrientes y *gasta* su exceso de liquidez comprando activos financieros, incluyendo acciones. Este trabajo investiga la relación de corto plazo entre el crecimiento de la oferta monetaria y los retornos bursátiles (tanto para acciones industriales como mineras) para el caso peruano. Se trata de probar la hipótesis de causa-efecto entre la oferta monetaria y los precios de acciones para el período 1983-1991. Para ello se utilizan las técnicas de cointegración propuestas por Engle y Granger (1987).

THE DYNAMICS OF REAL EXCHANGE RATE AND FINANCIAL ASSETS OF PRIVATELY FINANCED CURRENT ACCOUNT DEFICITS

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El Colegio de México

In the analysis of the recent balance of payments developments in countries, such as Mexico and the U.K., a claim commonly found is that current account deficits, when associated to private sector dissavings, should not be a reason for concern. One of the arguments behind this claim is that, unlike public sector dissavings -i.e. fiscal deficits-, those corresponding to the follow -as it is argued by a number of authors- because the private sector, behaving rationally, will want to bring spending into line with its underlying asset and debt position.

In this paper we deploy a model -along the modern version of the Mundell-Flemming tradition- to consider the evolution of the real levels of the exchange rate, interest rates, and of the level and composition of private sector wealth in an open economy exhibiting these peculiarities. That is, a model to understand the behavior of an open economy with an initial phase of its dynamic trajectory characterized by reductions in fiscal deficits accompanied by more than compensating reductions in private surplus, thereby exhibiting privately-financed current account deficits.

UN MODELO MACROECONOMÉTRICO PARA
LA ECONOMÍA DE ECUADOR

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El modelo macroeconométrico para la economía ecuatoriana presentado en este trabajo está constituido por 33 ecuaciones, de las cuales 27 son estocásticas y el resto identidades contables. Este sistema de ecuaciones simultáneas está sobreidentificado y los parámetros estructurales del mismo se estimaron mediante los estimadores mínimos cuadrados bietápicos. Hay que señalar que la base informativa de dicho modelo fue el anuario de cuentas nacionales del Ecuador de 1965 a 1990. Este modelo macroeconométrico persigue como propósito fundamental diagnosticar la economía del Ecuador y pronosticar las variables endógenas que lo componen para el periodo 1992-1995. Esto último con el fin de demostrar que si se mantienen las tendencias que se presentaron en la década de los ochenta, entonces el comportamiento para este periodo será del mismo corte que el de la referida década.

NON-PRICE RATIONING AND EFFICIENCY IN CASUAL LABOUR MARKETS

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CIEPLAN

This paper argues that the participation rate of workers during the slack demand season in rural labour markets is positively correlated with worker's efficiency. When a unique market wage exist, employers will prefer to hire workers of higher relative efficiency. Unobservable individual efficiency might prevent this preference to materialize. We prove that with the minimum information about productivity potentially available to employers, the output of the farm, the hiring decision provides employers, through time, the flexibility to give preference to workers of higher efficiency. Our propositions ar verified using data for the South Indian village of Dokur.

FINANCIAL ASSETS INDEXATION:
THE ARGENTINE EXPERIENCE

Alfredo J. Canavese
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The paper examines how financial assets indexation affected macroeconomic stability in Argentina.

Argentina was a partially indexed economy till the eighties and has evolved towards a system of full indexation of financial assets in the nineties when a *Convertibility Law* was passed by the Government. The *Convertibility Law* was the outcome of a series of financial crises and implicit and explicit monetary reforms which eroded the credibility economic agents had in the local currency.

The paper points out that a financial system based on *Convertibility* has a new and difficult task to accomplish: the matching of different correction indexes.

LA POLÍTICA ECONÓMICA EN LA ÉPOCA DE CÁRDENAS

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A lo largo del artículo se analiza la política económica del gobierno del general Lázaro Cárdenas, considerando primero el marco institucional de la política económica. Después se estudia propiamente el desarrollo de la economía y la serie de medidas de política gubernamental que muestran la intencionalidad real del gobierno, donde se puede apreciar que si bien se dio una política expansionista deficitaria, ésta fue de montos modestos y en buena medida obligada por las circunstancias. Finalmente, se señalan algunas conclusiones relativas a la política económica de Cárdenas.

ESTABILIZACIÓN *VERSUS* CRECIMIENTO: ¿QUE PREFERIMOS LOS COLOMBIANOS?

Mauricio Cárdenas S.
FEDESARROLLO

Este trabajo muestra que para una amplia gama de consumidores colombianos los beneficios (en términos de bienestar) de la estabilización plena del ciclo económico son menores que los derivados de un aumento de un punto porcentual en la tasa de crecimiento tendencial del consumo. Est&sl de(i99al)op son similares a los obtenidos por Lucas (1987) y Obstfeld (1991) pura los Estados Unidos y cuestionan el peso que implícita y frecuentemente otorgan las autoridades económicas al logro de las metas de estabilización en el corto plazo, sin considerar sus repercusiones sobre el crecimiento de largo plazo. Los consumidores colombianos son categóricos: un aumento marginal en el crecimiento económico produce tal efecto sobre el bienestar que los *policymarkers* harían bien en darle mayor peso en sus preferencias.

OPTIMAL QUALITY SELECTION
UNDER REPUTATION UNCERTAINTY

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It is a will established result that consumer's imperfect information about the quality of a monopolist's product, induces the latter to offer a quality grade inferior to what it would be in condition of perfect information.

Circumstances where the level of quality could be considered *high* always occur when a firm is subject to some pressure from its environment such as for instance, oligopolistic competition in the quality variable, the necessity to offer warranties or any other form of commitment to quality, or the presence of sophisticated customers acting as experts in the process of opinion formation.

The present work offers a general formalization of the disciplinary effect environmental pressure may have on a monopolist in the form of a risk function entering explicitly the formulation of its reputation dynamics. This risk arises if it is not possible for the firm to anticipate perfectly the market reactions to its policy decisions.

As a result the associated costs modify its optimization program influencing decisively the choice of optimal quality in the steady state.

SOBRE LA NATURALEZA DEL AJUSTE FISCAL
EN COLOMBIA

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Un eje fundamental de la teoría fiscal moderna se refiere al hecho de que las dicisiones en materia de gasto público y tributación efectuadas en el presente,

manera específica como se resuelva el probelma de convergenciaa haciæel restricción presupuestal y de sus implicaciones a nivel de la riqueza del sector privado, se podrían ver afectadas variables tales como el consumo y el stock de capital a largo plazo.

Este trabajo estudia algunos aspectos empíricos relacionados con el tema de la restricción intertemporal del gobierno en el caso Colombiano.

ECONOMIC GROWTH WITH UNKNOWN KNOWLEDGE

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In economic growth theory, the savings rate is usually considered as an economic policy variable. By changing the savings rate the economy can be led to a particular capital-labor ratio (level) or to a particular growth rate (endogenous growth models). In a similar context, there is the problem of how to design a saving policy rule in order that an economy can follow a certain desired trend of capital accumulation. The design of this saving policy rule can be even more difficult if some of the parameters in the economic model are unknown. This is the case of recent (and old) economic growth models that assume that capital and knowledge are generated in a fix proportion; if this fix proportion is unknown, the knowledge will be unknown and the saving policy rule will be hard to deduce.

It is assumed that the economy is ruled by an augmented Solow growth model. An endogenous technical progress exists where knowledge is created by a learning-by-doing process (Arrow-Romer). The paper shows how the saving policy rule, with unknown knowledge, can be obtained, such that a desired trend of the output per head is achieved. The saving policy rule is obtained using adaptive control techniques.

ESTRATEGIAS EMPRESARIALES Y
DESEMPEÑO EXPORTADOR

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Universidad de la República del Uruguay

El propósito de este artículo es analizar la vinculación entre desempeño exportador y estrategias empresariales para el caso de Uruguay en la década de los ochenta. Se definió desempeño exportador a nivel de empresa en función de dos dimensiones: dinamismo de la empresa exportadora y duración en la actividad.

Se estudia la asociación que registra con el siguiente conjunto de factores: tamaño, sector, estrategia exportadora (diversificación de mercados y de productos y orientación de mercados). La metodología empleada fue el diseño de tablas de contingencia y de modelos log-lineales. Los resultados se interpretan en términos de un ciclo de inserción internacional de la empresa exportadora, estableciendo una secuencia de etapas caracterizadas por rangos específicos de los diferentes atributos considerados.

DYNAMIC PRICE COMPETITION IN INFLATIONARY ENVIRONMENTS WITH FIXED COSTS OF ADJUSTMENT

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El Colegio de México

This paper applies numerical methods to solve a dynamic model of price competition in inflationary environments with menu costs. Because the natural method of solution in games with changing environment is Markov Perfect Equilibrium, this paper applies Markov techniques to characterize the solution. Since I approximate the solution in the computer, I can analyze models that have been so far intractable from an analytical point of view. Due to the fixed costs of adjustment, the solution will exhibit sluggishness in the adjustment of the variables under control by the firm. However, in contrast to the alternating move literature, the timing of adjustment is endogenously determined by modelling explicitly the source of inaction as a fixed cost. By simulating the game from a wide variety of initial conditions and parameter values, this paper shows that the firms will follow Ss policies far more frequent than any other policy for symmetric oligopolists with strategic complementarities. I am not aware of any result in the economics literature that shows this in the context of two state variables. Furthermore, if we allow for preplay negotiations and allow the firms to choose the initial conditions, they will always choose to follow Ss policies right from the beginning. I continue the paper with comparative statics. In this part, it is shown that changes in the exogenous parameters changes the optimal policy followed by the firms. In particular, for the synchronized case, a change in the rate of inflation, affects the Ss bandwidth followed by the firms. This result creates trouble for the current macroeconomic literature on Ss rules. The paper concludes with comparisons of the Nash outcome, with the social planner solution and the collusion case. From a welfare point of view, I calculate the consumer surplus implied by the Markov behavior of the firms and make comparative statics with different rates of inflation. The overwhelming conclusion is that inflation should be reduced in order to enhance social surplus.

EL SISTEMA ECONÓMICO MEXICANO, 1940-1988: UN PLANTEAMIENTO DE TEORÍA DE JUEGOS

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En este artículo se presenta una interpretación del sistema económico mexicano, entre 1940 y 1988, mediante el uso de la Teoría de Juegos. Para lo cual se parte del supuesto de un Estado mexicano con autonomía relativa, en donde el Estado tiene objetivos propios que surgen de sus compromisos con el sistema de producción capitalista y de su necesidad de legitimación ante las masas. El modelo consiste en un juego dinámico no-cooperativo entre tres personas (gobierno, empresarios y trabajadores organizados), el cual se resuelve considerando un equilibrio Nash con estructura de información de *loop* cerrado.

Las estrategias de equilibrio ofrecen una explicación racional a una serie de fenómenos observados durante el período. En particular, el modelo explica que los vaivenes en las políticas adoptadas por las distintas administraciones, moviéndose (aparentemente)de un lado del espectro político al otro, no son consecuencia de la ideología del presidente en turno, sino mas bien surgen del entorno político-económico del momento.

TECHNOLOGICAL PROGRESS AND DIFFUSION: DECOMPOSING TOTAL FACTOR PRODUCTIVITY GROWTH IN BRAZILIAN MANUFACTURING

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In this paper we estimate the rate of total factor productivity (TPF) growth in 80 sectors of Brazilian manufacturing industry and use production functions to decompose TFP growth into technological progress and changes in efficiency. We find that growth of TFP was caused, in most sectors, by technological progress (advances in the frontier production function). While parametric TFP change averaged 2.6% p.a. in the 1970-80 period, best practice TFP advanced at about 3.3% p.a., whereas efficiency declined annually at a rate of 0.7%. Technological progress was more important inm the paper and printing (4.2% p.a.), construction (4.2% p.a.), and chemical (3.7% p.a.) complexes, and stayed below average for the testile and footwear (3.1% p.a.), metal-mechanic (3.0% p.a.) and agroindustrial (3.0% p.a.) complexes.

FURTHER EVIDENCE ON EXCHANGE RATE EXPECTATIONS

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University of Limburg

This paper considers a previously unexploited survey data set of exchange rate expectations, which allows us to focus in differences between EMS and Dollar exchange rates. We corroborate the earlier finding in the literature that exchange rate forecasts are not rational and that agents do not use all available information efficiently. Although extrapolative and adaptive expectations formation mechanisms describe non-EMS exchange rate expectations to a certain extent, EMS exchange rates forecasts seem to follow long-run fundamentals more closely and would suggest that agents believe that EMS exchange rate expectations *undershoot* their long run equilibrium values.

ON THE BIASEDNESS OF FORWARD
FOREIGN EXCHANGE RATES:
IRRATIONALITY OR RISK PREMIA?

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This paper considers a previously unexploited survey data set of exchange rate expectations, that includes several EMS currencies. In contrast to earlier results for survey data, we find that the bias in the forward discount for major currencies relative to the U.S. Dollar is attributable to *both* irrationality of expectations and the existence of a time-varying risk premium. For EMS currencies the bias is primarily tributable to significant variation in the risk premium component. Our exchange risk premia exhibit serial correlation patterns that are consistent with the utility optimizing models of Lucas (1982) and Domowitz and Hakkio (1985).

TOBIN'S Q AND OPTIMAL GROWTH OF A MONOPOLY FACING FINANCIAL RESTRICTIONS, UNCERTAIN DEMAND AND ADJUSTMENT COSTS

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We analyze optimal dynamic investment behavior facing uncertain demand under adjustment costs and financial restrictions. These financial restrictions are created by asymmetries of information, which leads banks to impose a probability on bankruptcy and therefore a ceiling to aggregate debt/equity ratio. They appear when interest rates and firms debt/equity ratio have been raising, and limit the level and the speed of adjustment of investment. We study the optimal growth for a monopoly towards and equilibrium Tobin's q value and have the following results: Investment varies continuously, firms are starting credit constrained.

DIRECT AND INDIRECT MEASUREMENT OF THE REAL EXCHANGE RATE: AN APPLICATION TO BRAZILIAN DATA

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Modern open-economy macroeconomic theory has emphasized the ratio of tradeable to nontradeable prices (P_T/P_{NT}) as the appropriate measure of the *real exchange rate*, in contrast to a more traditional purchasing power parity-based (PPP) definition. Implementation of the P_T/P_{NT} measure, however, is complicated by the scarcity of obvious measures of nontradeable prices, leading to continued empirical reliance on the PPP measure. This paper uses two approaches to measure the P_T/P_{NT} rate in Brazil. The first, indirect approach uses a residual definition of nontradeables. Under a number of plausible assumptions this measure is closely related to the traditional PPP measure. The second, direct approach uses as proxies classes of goods and services which may reasonably be regarded as *more tradeable* than other classes.

Monthly data from Brazil between 1964 and 1991 are used to implement the two methods of measurement. Our results suggest that while the traditional PPP measure can provide an acceptable predictor of long-run trends in the P_T/P_{NT} rate, it exaggerates short-run real exchange movements. Standard time series methods are used to study the long-run time series properties of the two series and to evaluate the hypothesis that they are co-integrated in the Engle-Granger sense.

A MEASURE OF THE RISK OF DEFAULT FOR HIGHLY INDEBTED COUNTRIES:- A THEORETICAL APPROACH APPLIED TO SIX LDCs

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The price of debt on the secondary market reflects the risk that the debtor country will default on its external debt. Using the option-pricing theory, we identify the factors which influenced the risk of default over the 1986-1990 period for a sample of highly indebted countries. In particular, we provide a measure of the willingness to pay of the debtor country. Sin we identified the parameters of the stochastic process followed by this variable, this approach can be used to predict the future price of debt. The model also emphasizes that a debt-reduction operation may lead to a significant increase in the price of debt on the secondary market. Interestingly, this effect appears to be linked to the initial stock of external debt as suggested by the *debt overhang* hypothesis. In the last part of the paper, we shoe empirically that the willingness to pay is significantly influenced by changes in indicators of the debtor country's capacity of payment such as an increase in reserves or in GDP growth and exogenous events such as the increase in commercial banks loan reserves in mid-1987.

THE BUSINESSS CYCLE WITH
NOMINAL CONTRACTS

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In this paper we study the quantitative implications of nominal price con-
tracts and nominal wage contracts for business cycle fluctuations. We address
the issue using a model economy based on the neoclassical growth model
supplemented by the assumption that cash is needed to purchase goods. We
consider three variations of the standard recursive competitive equilibrium
concept that are intended to capture the important features of wage and price
contracting. We use these equilibrium constructs to address three issues. First,
we consider whether monetary shocks, propagated by nominal contracts,
constitute a viable alternative to technology shocks as a source of aggregate
fluctuations. Our results suggest that, while monetary shocks and nominal
rigidities succeed in causing output volatility of the required magnitude, the
resulting data have properties that are inconsistent with several key features
of U.S. data. Second, we ask whether there are important differences between
wage rigidity and price rigidity. The differences are significant; the price
contracting economies produce data with a correlation structure that is incon-
sistent with important features of U.S. output. We find that only a very small
amount of rigidity would be necessary to cause output volatility of the
magnitude observed.

LOS COSTOS DE DESPIDO: EL EFECTO DE LAS INDEMNIZACIONES POR AÑOS DE SERVICIO

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La discusión que recientemente se llevó a cabo en Chile sobre reformas laborales tuvo como uno de sus ejes centrales el tema del monto de las indemnizaciones por despido y el de si éstas debían o no tener un tope máximo en cuanto al número de años de servicio sobre el cual eran aplicables. El interés académico estaba entonces en determinar los efectos de distintos regímenes de indemnizaciones sobre los niveles de salario, empleo, duración de los empleos, etc. Este artículo tiene como objetivo estudiar la incidencia de los costos de despido específicamente de las indemnizaciones por años de servicio, sobre la trayectoria de los salarios, duración de empleos y la generación de puestos de trabajo dentro de un contexto intertemporal.

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PRECIOS Y TIPO DE CAMBIO EN BOLIVIA: EVIDENCIA EMPÍRICA DEL PERIODO DE POST-ESTABILIZACIÓN

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El trabajo tiene como objetivo hacer un análisis sistemático de la relación existente entre la variación del tipo de cambio y la tasa de inflación en Bolivia, para el período post-estabilización (1986-1991). A partir de un modelo dinámico, que relaciona los incrementos en el tipo de cambio con la tasa de inflación doméstica a través de la regla PPC (*Paridad del poder de compra*), se efectúa la estimación de los coeficientes estructurales por medio del método máximo-verosimilitud con información completa (FIML). Posteriormente, se deriva de un modelo de vectores autoregresivos (VAR), que permite obtener los coeficientes de forma reducida, provee otras alternativas de interpretación del coeficiente de transmisión de depreciación de precios (*Pass Through*) y contribuye a verificar la relevancia de las tasas de inflación internacionales en la determinación de ambas variables. Adicionalmente, se utiliza el modelo *VAR* para hacer pruebas de causalidad y examinar los posibles mecanismos de transmisión entre precios y tipo de cambio. Finalmente, se hace un análisis de cointegración de las variables estudiadas para verificar la existencia de una posible relación de equilibrio de largo plazo, y de esta forma comprobar si efectivamente la regla PPC se ha cumplido para el caso boliviano durante el período analizado.

STICKY PRICES AND INFLATION RATE INDETERMINACY UNDER A NOMINAL INTEREST RATE RULE WITH AN EXPLICIT GOVERNMENT BUDGET CONSTRAINT

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Leonardo Auernheimer
Texas A&M University

The nuisance of a nominal interest rate rule has been argued at least since the time of Wicksell (1898); maintaining a *low* interest rate target is not sustainable because it implies a higher inflation rate. In addition, Sargent and Wallace (1975) (SW) established that in a world exhibiting flexible prices, the rule leads to an indeterminacy of the price level. Hence, a nominal interest rate rule is twice damned by either unstability or indeterminacy arguments. The recent literature solved the apparent indeterminacy of the price level by utilizing the government budget constraint (GBC) and the fact that changes in the nominal money stock are not arbitrary. Also, Calvo and Végh (1990a) (CV) solved the price level indeterminacy by providing liquidity to the government debt; their argument is that just a *pinch* of liquidity provides an anchor for the initial price.

Recently, Calvo (1983), in a world with perfect foresight (PF) and staggered prices, obtained a *higher order indeterminacy* corresponding to the existence of a continuum of PF inflation paths; he argues that the indeterminacy if of the same nature as the one of the price level. CV (1990b) recently solved this indeterminacy problem by giving liquidity to government debt. In the present note we argue that by explicitly considering the GBC, there exists indeed an anchor for the initial inflation rate, even when the government debt has *zero liquidity*.

DYNAMIC OPTIMAL TAXATION IN SMALL OPEN ECONOMIES

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This paper studies the problem of optimal taxation in an open economy using an infinite horizon model. This analysis provides a link between the literature on optimal taxation in open economies and the dynamic optimal taxation literature. The infinite horizon framework has the advantage of allowing us to study how tax rates should evolve over time, thus generating predictions about the evolution of tax systems in a world with capital mobility. We consider two types of international tax systems by represent stylized versions of the actual tax systems in use today by countries around the world: the territorial, or source system, and the worldwide system.

EQUILIBRIUM IN INCOMPLETE CONTRACT
MARKETS WITH LINEAR PRICE SCHEDULES

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In this paper we develop alternative institutional arrangements for a monopolist producer selling a non-resealable product to many competitive retailers: only spot market; both spot and contract markets. There is a production lag in the production process of the monopolist. Retailers have advance information about next period state of nature. Because the monopolist's cost function is not separable, there is no known solution for non-linear price schedules. So we restrict our attention to linear price schedules, and focus of the reasons for the coexistence of spot and contract markets for the same product.

INDICADORES LÍDERES EN CHILE: DISEÑO Y EXTRACCIÓN DE SEÑALES

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El ambiente económico que caracteriza a nuestros países, sujeto a expectativas extremadamente volátiles que pueden transformar el marco de refeencia rápidamente, hace necesario contar con instrumentos de control que permitan ajustar las políticas de manera de adelantarse a la evolución de las variables que son objetivo de éstas. El control y, en lo posible, anticipación en base a información confiable de la marcha de la economía se constituye, entonces, en pieza fundamental para la toma de decisiones que lleve a la obtención de resultados efectivos.

En este trabajo se realiza una breve revisión de algunos aspectos de la metodología asociada a la utilización de indicadores líderes del ciclo económico y se evalúa la utilización de algunos indicadores construídos ad-hoc para la anticipación de corto plazo en Chile. La disponibilidad de estos indicadores, así como de reglas formales de interpretación de sus señales, permite contar con señales anticipadas de la evolución de la actividad económica y, por lo mismo, con una evaluación sobre la marcha de la misma. De esta manera, las señales que generan pueden constituir un aporte significativo a la toma de decisiones que involucra el ajustar políticas, adelantándose a eventuales desequilibrios que se estén incubando y generar política contracíclica a tiempo de revertir desviaciones de la senda de crecimiento escogida.

THE INVISIBLE HAND OF ANTI-DUMPING LAWS: A MODEL OF 'RECIPROCAL ANTI-DUMPING' ENFORCEMENT

Alfredo Cuevas

Princeton University

Most forms of protection through trade policy are market-specific, and are targeted at markets where trade takes place or is expected to take place in the absence of the policy. To that extent, we can have a good idea of where the main effects of those policies will occur. However, anti-dumping codes are not market-specific. Any firm can file a complaint against allegedly dumped imports. This gives rise to the possibility that such form of protection may have undesirable *invisible* effects, that is, effects upon sectors where is no trade in absence of the policy, and where, once the anti-dumping code is in place, either we continue to witness no trade, or we see an increase in expected import levels. These effects are the result of the impact of anti-dumping legislation upon potential foreign competitors. In a two-country model, one domestic firm is the only supplier in its domestic market, but its ability to set prices is constrained by the presence of a similar firm in a foreign country, which could ship goods to the domestic country by incurring a small transport cost. As long as the foreign firm can price discriminate between countries, it is a dangerous potential competitor, and even if it is not currently exporting, its presence affects the behavior of the domestic firm. Anti-dumping codes effectively destroy the foreign firm's ability to price-discriminate. In order to export legally, it would have to lower the price it charges on the foreign country. As exporting becomes a costlier activity, the foreign firm is weakened as a potential competitor, which allows the domestic firm to increase its prices. Different parameter values lead to either pure-strategy or mixed-strategy equilibria. In the latter, the domestic firm sets which prices with enough frequency that the foreign firm finds it worthwhile to try to export with some positive probability. A similar analysis of these markets under a regime of anti-dumping enforcement in the two countries strengthens these results.

THE FUNDAMENTAL MARXIAN THEOREM
WITH COMPLEX LABOR

Enrique R. Dávila Capalleja
Instituto Tecnológico Autónomo de México

The purpose of this paper is to demostrate the validity of the Fundamental Marxian Theorem in a model with complex labor. Following the ideas of Roncaglia (1973), information of the technical structure of education processes is used to reduce the different kinds of complex labor to simple labor and to endogenously determin the wage scale.

REMOVING INFLATION IN A MACROECONOMIC GAME OF CONFLICT OVER THE DISTRIBUTION, WITHOUT THE USE OF A SOCIAL PACT

Steve de Castro
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The theory that inflation is the result of a conflict among private agents over the income distribution, has been linked to Cournot-Nash non-cooperative behavior in a one-shot game, by Fraga and Werlang (1983). Only a social pact (cooperation) could remove the inflation. Here we show how the government can use a fixed rule for the money supply, to induce agents, without coope-ration, to reach a zero inflation equilibrium. The government does not act strategically here it is not a player, but it is less passive than in the Fraga-Wer-lang game. Its role is similar to the consumers in Cournot's model.

HIPERNFLAÇÃO E O REGIME DAS POLITICAS MONETÁRIA-FISCAL

Fernando de Holanda Barbosa
Fundação Getúlio Vargas

O modelo apresentado neste trabalho analisa o equilíbrio e a dinâmica de uma economia caracterizada por enércia no sistema de preços e previsão perfeita no mercado de ativos financeiros, em dois regimes de política monetária-fiscal. No regime de política monetária passiva, em que o Banco Central financia o déficit do Tesouro, é bastante conhecido o fato de que podem existir dois pontos de quilíbrio, um de inflação alta e outro de inflação baixa. Dependendo dos parâmetros da economia, cada um desses pontos pode ser ou atrator ou repulsor. A dinâmica do modelo permite que a inflação se estabilize em patamares elevados ou baixos, e que também ocorra processos hiperinflacionários. A economia sofre mudanças qualitativas (bifurcação de Hopf) na sua dinâmica quando o déficit público real atinge um determinado valor.

No regime de política monetária ativa, em que o Banco Central é livre para escolher a taxa de expansão monetária, as possibilidades de ocorrência de hiperinflação na economia são menores do que no regime de política monetária passiva, porque este fenômeno só acontece para um subconjunto do espaço dos parâmetros do modelo, diferente da condição estabelecida por Cagan, que independe do regime das políticas monetária-fiscal.

INTERNATIONAL POLICY INTERDEPENDENCE AND COORDINATION: THE INTERACTION BETWEEN FOREIGN AND DOMESTIC CREDIBILITY

Fernando de la Iglesia
Georgetown University
Univerisdad de Deusto

In an interdependent world economy, individual country behavior (by means of monetary policy, for example) generates global (international) externalities working through the terms of trade. In one period (myopic) settings, non-cooperative behavior implies the persistence of such externalities thus yielding highly inefficient outcomes. However, in multi-period horizons, the formation of cooperative agreements among countries can internalize such externalities while making all countries strictly better off. The most widely used class of strategies used in such dynamic settings corresponds to trigger mechanisms. However, the value of trigger mechanisms is diminished if payoffs are stochastic. Moreover, outcomes supported by trigger mechanisms are often not globally efficient. This paper contributes to the literature on international policy games by explicitly accounting for the internactions between domestic and foreign credibility of government policy. The framework, which builds on Stokey (1991), explores coordination issues in fixed and flexible exchange rate regimes. The attractiveness of the framework is illustrated through a series of numerical examples.

BAYESIAN AND NON-BAYESIAN UNIT ROOT TESTS FOR SPANISH EXCHANGE RATES

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One of the most discussed topics in econometrics today is the unit root tests applied to economic time series, and specially to financial time series. New tests have been developed to verify the unit root hypothesis but in econometrics there is a considerable number of tests, not specificly derived to verify this hypothesis, that can explain some contradictory results in the recent literature. The aim of this paper is to test the random walk hypothesis, narrowly tied to the weak version of the Jensen (1978)'s market efficiency hypothesis, for three Spanish peseta exchange rates, using different tests. To attain this objective, we will make use of two kind of tests, classical nab Bayesian, including thus, within the classical framework, the tests specificly derived to verify the unit root hypothesis and other tests developed in econometrics. Within the Bayesian approach, we will use different tests depending on the prior information that we will consider.

LOS DETERMINANTES DEL GASTO EN PUBLICIDAD: UNA APLICACIÓN AL CASO ESPAÑOL, 1978-1984

Covadonga de la Iglesia

Fundación Empresa Pública y Universidad Complutense

El trabajo se centra en el estudio de los determinantes de la intensidad publicitaria en España, entre los cuales ocupa un lugar fundamental la estructura de mercado.

Los datos utilizados en el proceso de estimación son sectoriales y provienen de la Encuesta Industrial (Instituto Nacional de Estadística), aplicándose la metodología de datos de panel. Debido a la correlación entre las variables explicativas y los efectos individuales, y los errores de medida, se estima la ecuación intragrupos utilizando variables instrumentales por el método generalizado de los momentos, según la propuesta de Arellano y Bond (1988).

Entre los resultados cabe señalar, en primer lugar, la existencia de una ecuación cuadrática significativa entre la intensidad publicitaria y la concentración del mercado, con un efecto diferenciado según ciertas características de los sectores (grado de intensidad importadora y naturaleza de la producción). En segundo lugar, el efecto negativo de la evolución de la demanda en la intensidad publicitaria se explica por la estrategia de permanencia en el mercado. Por último, la intensidad publicitaria es mayor en los sectores productores de bienes de consumo, debido tanto a la distinta naturaleza como al comportamiento de los receptores de la misma.

TECHNICAL CHANGE IN CAPITAL REQUIREMENT MATRICES: THE CONSTRAINED BIPROPORTIONAL CASE

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University of Kent

This paper examines the duality properties of constrained biproportional technical changes in vintage capital requirement matrices. It is shown that constrained biproportionality can be defined as a variational inequality for distance minimization between the capital matrix's row-an column-sums and the prescribed marginal control totals and efficient vintage selection is of the Harrod-neutral type under duality and order continuity.

CRISIS DE BALANZA DE PAGOS Y ENDEUDAMIENTO EXTERNO

Francisco de Paula Gutiérrez
INCAE

El artículo extiende la literatura sobre crisis de balanza de pagos, al incluir la posibilidad de endeudamiento externo por parte del Banco Central. Esto se hace en tres etapas. En la primera se considera un comportamiento determinístico de los bancos prestamistas. En la segunda etapa se introduce un comportamiento aleatorio de los bancos prestamistas, pero la distribución de probabilidades asociada es conocida por todos los agentes económicos. En la tercera etapa se analiza una situación donde la distribución de probabilidad asociada al comportamiento de los bancos prestamistas no es conocida por los agentes económicos internos.

INFLACIÓN DURANTE EL PORFIRIATO: UN NUEVO ANÁLISIS CUANTITATIVO

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Este estudio propone el análisis de ciertas variables cuantitativas relevantes para la economía del porfiriato, mediante herramientas econométricas, con el fin de obtener un mejor conocimiento del comportamiento de la macroeconomía de la época.

Para el análisis se emplea un modelo macroeconómico de tipo *ad-hoc* para determinación de precios y salarios; este modelo, que incorpora los sectores monetario y real tiene los fundamentos de la teoría neoclásica, describe los precios mediante expectativas racionales donde las variables endógenas de la economía son los precios, los salarios y la balanza de pagos.

El proceso de estimación del modelo es mediante la resolución de ecuaciones simultáneas con mínimos cuadrados bietápicos. Como método alternativo se presenta la estimación de máxima verosimilitud. Las conclusiones están basadas principalmente en las pruebas estadísticas y econométricas realizadas sobre los parámetros calculados.

LA DEMANDA INDUSTRIAL DE ENERGÍA EN ARGENTINA: UNA ESTIMACIÓN INTEGRAL POR ETAPAS

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Este trabajo examina algunos aspectos económicos importantes del consumo industrial de energía en Argentina. Para ello emplea una función de costo translogarítmica que no impone limitaciones sobre las características de la tecnología sino que las contrasta empíricamente, utiliza datos temporales agregados para todo el sector y realiza la estimación por etapas. En la primera de ellas obtiene la demanda industrial de productos energéticos bajo los supuestos convencionales de optimización y calcula un precio agregado de la energía, que emplea en la segunda etapa para estimar las demandas de insumos primarios con un modelo KLEM

Con los resultados obtenidos examina luego la respuesta de la demanda de productos energéticos a cambios en sus precios, el impacto que éstos provocan en los costos de producción y la relación que existe entre la escala y el consumo de energía. Finalmente, agregando proyecciones de precios y producción industrial calcula los niveles esperados de demanda.

TENDENCIAS Y PREDICTIBILIDAD
EN LA BASE MONETARIA URUGUAYA:
LOS AÑOS RECIENTES

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Este documento revisa el comportamiento estocástico subyacente en los agregados monetarios más relevantes para el Uruguay, en los años recientes. Luego de presentar los principales conceptos relativos a la evolución de los agregados, se deriva y discute una regla óptima para la gestión monetaria del Banco Central. Posteriormente, se analiza el comportamiento empírico de las series a través de pruebas de raíces unitarias, concluyendo en que éstas se comportan principalmente como caminos aleatorios con *drift*. Por último, se revisan los factores que explican la variación de la base, de modo de extraer algunas conclusiones que ayuden a explicar este comportamiento observado.

'KEYNESIANISMO AVANT LA LETTRE' O PRAGMATISMO GUBERNAMENTAL ANTE LA GRAN DEPRESIÓN: UN ANÁLISIS COMPARADO DE LAS POLÍTICAS FISCALES DE ARGENTINA, BRASIL Y MÉXICO (1920-1940)

Daniel Díaz Fuentes

Universidad Carlos III de Madrid

El documento analiza comparativamente la evolución económica, los cambios de política económica y el comportamiento de las variables de Hacienda Pública de Argentina, Brasil y México durante el período de entreguerras, prestando especial atención a la Gran Depresión, etapa que en la bibliografía ha sido presentada como una *ruptura* en los patrones de crecimiento de las economías latinoamericanas. La investigación se basa en la reconstrucción estadística realizada para disponer de una base empírica inexistente previamente sobre datos homogéneos de las principales macromagnitudes, con las que se contrastaron econométricamente y mediante un análisis agregado el comportamiento y las tendencias de las variables fiscales. Las cuestiones centrales que se buscaron disipar fueron: (1) cómo se transformaron las estructuras impositivas dependientes de los impuestos sobre el comercio exterior de los países tratados; (2) en qué medida la expansión del gasto gubernamental tuvo un carácter pro o anticíclico, y (3) hasta qué punto variaron los saldos presupuestarios ante las tendencias de los ingresos y los gastos gubernamentales.

BANKING IN COMPUTABLE GENERAL EQUILIBRIUM ECONOMIES

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Edward C. Prescott*, Terry Fitzgerald and
Fernando Alvarez
Federal Reserve Bank of Minneapolis
University of Minnesota

In this paper we develop a computable general equilibrium economy that models the banking sector explicitly. Banks intermediate between households and between the household sector and the government sector. Households borrow from banks to finance their purchases of houses and they lead to banks to save for retirement. Banks pool households' savings and they purchase interest-bearing reserves. We use this structure to answer two sets of questions: one normative in nature that evaluates the welfare costs of alternative monetary and tax policies, and one positive in nature that studies the real effects of following a procyclical interestrate policy rule.

YOUTH AND LABOR MARKETS IN URUGUAY: SEARCH AND EMPLOYMENT

Rafael Diez de Medina
CEPAL

The paper deals with the situation of the youth within labor market in Uruguay covering the activity, employment and unemployment using various methodological tools. The first part of the paper tackles the activity of youth trying to disclose the main determinants using a probit analysis, stressing on the election between schooling and work, si important im this group. From the estimation of the models, no selectivity bias was found and a group of determinants is identified. Secondly, the paper deals with youth employment, specially referring to the *screening* process carried out by labor demand in uruguay. It concludes that the uruguayan labor market has extensive and some times tacit rules where the duration on the present job and the training *on the job* prevails over formal education. Finally, the paper tacles the unemployment issue discussing the possible existence of hysteresis in the Uruguayan labor market and, consecuently, the importance of some demand policy into account the permanent effects of estabilization programs.

NASH EQUILIBRIUM UNDER KNIGHTIAN UNCERTAINTY: BREAKING DOWN BACKWARD INDUCTION

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London Business School

Sérgio Ribeiro da Costa Werlang*
Fudação Getúlio Vargas

We present two alternative definitions of Nash equilibrium for two person games in the presence of *uncertainty*, in the sense of Knight. We use the formalization uncertainty due to Schmeidler and Gilboa. We show that, with one of the definitions, prudent behavior (maxmin) can be obtained as an outcome even when it is not rationalizable in the usual sense. Most striking is that with the same definition we break down backward induction in the twice repeated prisoner's dilemma. We also link these results with the Kreps-Milgrom-Wilson explanation of cooperation in the finitely repeated prisoner's dilemma.

EFFICIENCY OF STOCK FORWARD MARKETS IN BRAZIL: RESULTS FROM COINTEGRATION TESTS

Adriano Romariz Duarte*, Antonio Zoratto Sanvicente and Paulo Eduardo Clini

Universidade de Sao Paulo

A market is efficient when only new unantecipated information leads to a price change, given as information set. If a given market is efficient, the search for information can be avoided, thus reducing transaction costs. In this paper we test the efficient market hypothesis for the most highly especulative individual stocks in the SP exchange, using daily data on the spot and foward values for the period from april 1986 to march 1987. In the most previous tests of the efficient market hypothesis, the testing have been questionable due to the use of the levels of spot and forward or futures prices series, which have been show to be non-stationary. To account for the non-stationary behavior of various prices series, this paper adopts the cointegration approach, using the known fact that a necessary condition for market efficiency is that the forward or futures and spot price series for a commodity be cointegrated.

MONEY DEMAND AND
SEIGNORAGE-MAXIMIZING INFLATION:
DO HIGH-INFLATION TRAPS EXIST?

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The World Bank

Paolo Mauro
Harvard University

Klaus Schmidt-Hebbel*
The World Bank

Conventional estimates of the seignorage-maximizing rate of inflation often to make use of the Cagan form, which implies a constant semi-elasticity of money demand with respect to inflation. This paper develops a model which implies a variable semi-elasticity. It shows that the higher is the degree of substitution between money and bonds, the higher will be the likehood that the inflation semi-elasticity of money demand increases with inflation and that a seignorage Laffer curve exists. Individual country estimations and cross-country panel regressions based on annual data from 11 high-inflation countries provide empirical support for the model. Relaxing the hypothesis of a constant semi-elasticity leads to estimates for the semi-elasticity and the corresponding seignorage-maximizing inflation which differ significantly from those obtained by using the traditional approach. The findings suggest a low likehood from those obtained by using then traditional approach. The findings suggest a low likehood that stable inflation on the *wrong* side of the Laffer curve for seignorage has ever occurred.

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THE ROLE OF TOTAL FACTOR PRODUCTIVITY ON ECONOMIC GROWTH

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The main objectives of the paper are assess the importance of total factor productivity on economic growth and to explain the growth of total factor productivity.

The contribution share of total factor productivity (TFP growth) to GDP growth will be estimated for around 100 countries en the period 1950-1987. It will also present previous estimates that covers a longer period but for fewer countries. these estimates will be presented along the other sources of economic growth: the traditional labor and capital inputs.

A brief discussion will be made of the recent literature that tries to improve the economic growth theory provided by the neoclassical growth models, putting emphasis on the determinants of TFP growth. This new literature has been very active in the last decade trying to offer an explanation of the GDP rate of growth variability across countries and overtime. This new literature put emphasis en the source of increasing return to scale, the effects and production of human capital, catch-up effects with respect to the leading productivity country, and structural adjustments.

Evidences will be searched for veryfing different theories proposed to explain the TFP and GDP growth. These evidences will become very useful for economic policies designs.

STABILIZATION WITH AN EXCHANGE
RATE RULE AND CAPITAL CONTROLS

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Kent State University

Leonardo Auernheimer
Texas A&M University

The paper analyzes stabilization programs which consist of two co-imple-
mentation of an exchange rate rule, and a subsequent fiscal comprenders the
exchange rate rule sustainable. In contrast to earlier work, it is capital is
internationally immobile, i.e., that there exist enforceable capital specific
program being considered is a zero rate of devaluation rule (a constant
nominal exchange rate) *cum* either a lump sum tax increase or a fall of
government expenditures in traded and non-traded goods. Comparison of
the results to those of perfect capital mobility available in the literature shows
important differences concerning the adjustment during the interim period
between the beginning of the program and the implementation of the fiscal
innovation. In particular, the anticipation of both a tax increase and a reduc-
tion of government expenditures in non-traded good has no effect on the trade
account, the real exchange rate or the price level.

POLÍTICA DE ESTABILIZACIÓN DE PRECIOS INTERNOS DEL AZÚCAR

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Universidad de Chile

El objetivo de este estudio es determinar si se justifica una política de estabilización para el azúcar en Chile y, de ser así, comparar la efectividad de diversas políticas. En rigor, las respuestas a las inquietudes anteriores dependen de cómo evolucione el precio del azúcar, cuestión que es imposible determinar con certeza. Por esta razón se optó por determinar las probabilidades de diversos eventos de interés en lugar de obtener conclusiones tajantes. Para ello, se realizó una serie de ejercicios de simulación que permitieron cuantificar los efectos, tanto para la industria como para los consumidores, de varias políticas de estabilización de precios, incluyendo la actual. En las simulaciones se empleó el método de *boot-strap*, el cual no requiere suponer una distribución de probabilidad particular para la serie de precios.

ESTIMATING SECTORAL CYCLES USING COINTEGRATION AND COMMON FEATURES

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The present paper investigates the degree of short run comovement present in U.S. sectoral output data. A theoretical model based on Long and Plosser (1983) is used to derive a reduced form for sectoral output from first principles. Cointegration and common features (cycles) tests are performed and sectoral output data seem to share a relatively high number of common trends and a relatively low number a common cycles. A special trend-cycle decomposition of the data set is performed and the results indicate a very similar behavior for cycles and a very different behavior from trends. A variance decomposition exercise reveals that trend innovations are a major source of economic fluctuations and that a very limited role can be attributed to cycle innovations.

COMMON VOLATILITY IN INTERNATIONAL
EQUITY MARKETS

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University of California, San Diego

Raul Susmel*
University of Virginia

In this paper, we take advantage of the time varying structure of stock returns variances to investigate whether two international stock markets share the same volatility process. We use a test recently developed by Engle and Kozicki (1990). This test is also used to assess the validity of a one factor ARCH model. We find that some international stock markets have the same time varying volatility.

ESTIMACIÓN DE UN INDICADOR DEL NIVEL DE ACTIVIDAD PARA LA ECONOMÍA PERUANA MEDIANTE UN MODELO DINÁMICO DE VARIABLES LATENTES

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GRADE

Este trabajo presenta la estimación de un indicador de nivel de actividad económica para el Perú basado en un conjunto de series de tiempo de fácil acceso (vgr. series de producción, empleo ingresos, etc.). el modelo supone que tal tarea es posible debido a que la dinámica de las series incluidas puede ser explicada por un solo factor común subyacente a todas ellas.

Primero, se realizan pruebas estadísticas para mostrar que efectivamente sólo se requiere especificar una sola variable latente común en el sistema. A partir de los resultados obtenidos, es posible especificar un modelo donde la evolución de las series de tiempo elegidas puede ser explicada por la dinámica de la variable latente. A su vez, esta variable sigue un proceso autoregresivo de primer orden.

El modelo tiene una representación en el espacio de las variables de estado (*State Space Form*) lo cual permite, una vez estimados los parámetros del sistema, utilizar el algoritmo del filtro de Kalman para identificar la evolución de la variable de estado. La determinación de los valores óptimos de los parámetros se realiza a partir del algoritmo EM. Bajo las restricciones impuestas en el sistema, esta variable representa el nivel de actividad de la economía.

THE INFLATIONARY IMPLICATIONS OF REDUCING MARKET INTEREST RATES VIA ALTERNATIVE MONETAR Y POLICY INSTRUMENTS

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We use a general equilibrium model of deficit finance to compare the effects on the rate of inflation of reductions in the real interest rate brought about by (1) open market operations an (2) changes in the required reserved ratio. We identify simple assumptions that ensure the existence of a range of initial policy settings over which the *conventional wisdom* hold true-a range over which both open market purchases and reserve ratio reductions cause the real interest rate to decline and the rate of inflation to increase. We establish that under these assumptions open marker purchases are always the least inflationary way to achieve a given reduction in the real interest rate. Finally, we extend our analysis to situations in which the ultimate target of policy is the nominal interest rate.

COINTEGRATION AND TESTS OF A CLASSICAL MODEL OF INFLATION IN ARGENTINA, BOLIVIA, BRAZIL, MEXICO AND PERU

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The failure of the *heterodox* inflation stabilization attempts of the 1980s in Argentina, Brazil and Peru along with the apparent success of the more orthodox Bolivian and Mexican stabilizations have left researchers again looking at the dynamics of inflation. This paper seeks to add to recent findings by testing whether the recent seemingly different inflation experiences in Argentina, Bolivia, Brazil, Mexico and Peru are consistent with the new classical model of inflation. Monetary models of inflation with rational expectations carry a number of testable implications. First, money growth and inflation should be cointegrated while the short term dynamics display temporary and stochastic dislocations from this equilibrium relationship. Second, the equilibrium error anticipates future monetary policy due the fact that agents have superior information to that of the econometrician. Third, cointegration between money growth and inflation implies, as Campbell and Shiller (1987 and 1988) show, that cross equation restrictions can be readily generated from the error correction form. Our results show that the new classical model of inflation is generally consistent with the inflation experiences of Argentina, Bolivia, Brazil, Mexico and Peru in spite of their supposed heterogeneity.

DEUDA E INCENTIVOS EN UN
MARCO DINÁMICO

Jorge Fernández Ruiz
El Colegio de México

Modelamos los problemas de incentivos derivados de la existencia de una alta deuda heredada. Se ha argüido que es posible que las distorsiones producidas por la deuda heredada sean de tal magnitud que una condonación parcial por parte del acreedor produzca mejoras en el sentido de Parteto. Estudiamos este fenómeno en un contexto dinámico.

El Banco enfrenta el problema de diseñar la naturaleza intemporal del esquema del perdón. En caso de que quiera renunciar parcialmente a sus derechos sobre el producto del país para incentivar su esfuerzo, debe decidir la manera de hacerlo a lo largo del tiempo. Le permitimos fijar un vector de cotas superiores a lo que cobrará el país en cada uno de los periodos que dura la relación. Encontramos que es óptimo establecer los derechos del acreedor como una deuda con maduración de un periodo, es decir, una cantidad de la que se restan pagos y que crece a una tasa igual al inverso del factor común de descuento. La deuda inicial involucra un perdón parcial, al igual que en el modelo de un periodo y es de tal magnitud que, si ocurre un mal estado de la naturaleza, crecerá por encima de su nivel óptimo y será conveniente reducirla nuevamente. Entonces hay un perdón inicial y además un perdón futuro adicional en caso de que el país obtenga un producto bajo y efectúe un pago pequeño. Éste fenómeno obedece a motivos de credibilidad: el banco quisiera penalizar más al país en caso de una mala realización del producto, pero si tal situación se presenta, no le convendrá hacerlo.

Encontramos que el argumento de reducción de la deuda es reforzado al ubicarlo en un contexto dinámico. Es posible que el banco no encuentre conveniente perdonar la deuda si la relación dura sólo un periodo; pero sí lo haga si la relación es más duradera.

El esquema de pagos óptimo induce un esfuerzo del país, mayor al del modelo de un sólo período.

Realizamos ejercicios de estática comparativa al variar la tasa de interés y encontramos que, partiendo de una deuda suficientemente grande, un incremento en la tasa de interés beneficia al país e induce un esfuerzo de equilibrio mayor.

ON INFORMATION FLOW AND
EXCHANGE RATES

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Daily exchange rate changes are modelled as subordinate stochastic processes where the directing process is autocorrelated and interpreted as the *information* variable. The advantage of modelling exchange rates this way is tree-fold. The first is that is based on a structure that stems from information flow. Second, it possesses the characteristics found recent studies on exchange rates. Third, this model allows us to estimate the flow of information to the market at each point in time. For this study, the exchange rates of the countries that participate in the Exchange Rate Mechanism (ERM) and the US dollar are used. The model parameters are estimated via Generalized Method of Moments (GMM). The parameter estimates reinforce the belief that there is serial dependence is the higher moments, a property of exchange rates that cannot be detected by linear models. The *information* variable is extracted via non-linear filtering technique. The resulting series show varying information flow patterns. Overall, the information variable at some periods shows a sharp increase and then a gradual decrease , and at some other periods shows just the opposite pattern. The sharp increase and a gradual decrease can be interpreted as the surprise information reaching the market with the related information bits following, perhaps with fewer surprising factors. A gradual increase and then a sharp decrease can be interpreted as the increase in volatility due to formation of expectations before the release of major macro economic statistics. As expected, the change of target zone news affects exchange rate volatility; however, these effects tend to have short spans. There seem to be other news effects that are more persistent and more important in exchange volatility.

INCOME DISTRIBUTION AND TRADE IN AN ENDOGENOUS GROWTH MODEL

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Casual observation suggests that the rate of growth in developing countries is negatively related to the degree of income inequality in a country. Moreover, we believe that a major cause for this effect lies in the distribution of human capital. We formalize these beliefs in a dynamic, three factors, two goods model with an externality in the accumulationm of human capital. TThe paper also studies the effects of trade liberalization on the rate of growth. The direction of trade will depend on the difference in the intertemporal rates of discount between the country and the world. Our main contributions to the literature are to show the importance of income distribution on the rate of growth and that welfare comparisons based on steady states can severely overestimate the gains from trade.

URBAN INCOME INEQUALITY IN ARGENTINA
AND BRAZIL: A COMPARATIVE ANALYSIS

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The decade of the 1980s for the Latin American countries was one of unpre-cedented decline even when compared to the 1930s. Not surprisingly, the consequence was a concentration upon macroeconomic issues at the expense of others. But the high degree of income inequality remained a matter of serious concern, the more so since the supposed negative relationship be-tween macroeconomic performance and the income distribution undergirds much of the opposition to orthodox stabilization policy.

In this essay we examine the comparative response of the size distribu-tion of income in Brazil in Argentina to economic deterioration in the begin-ning of the 1980s. We take advantage of the annual income distribution data of unusual good quality available for both countries, and contrast the respon-ses in an economy that was already stagnating, Argentina, with one whose growth rate had been the highest and the steadiest in the region, Brazil.

To carry this task out we resort to the combination of two techniques. First we decompose the observed changes in inequality into two component parts, the economic structure of the labor force and the relative earnings of the relevant groups (according to age, education, sector of activity, and occupation). Next, because it is changing relative incomes with respect to education that are found to account for the largest part of the changes in education through the estimation of earnings equations for the two countries. The earnings differentials so generated are then related to the behavior of real wages and to the cyclical component of output in both countries.

We found evidence to support the assertion that, in the Brazilian case, the macroeconomic shocks of the early 1980s, and the policies they induced, were an important factor explaining the reversal of the improvements in the size distribution of income that took place in the second half of the 1970s. The deterioration in the Argentine size distribution proceeds the macroeconomic crisis of the 1980s, although the latter continued to deepen the original trend in income inequality.

TAX EVASION AND FINANCIAL REPRESSION:
SOME LATIN AMERICAN EVIDENCE

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This research addresses the issue of illegal tax evasion in countries with repressed financial structures. We show that tax evasion is particularly important in these circumstances and may determine a country's success or failure in moving from a stagnant high inflation setting to another of price stability and growth. We stablish how agents, who want to smooth their consumption pattern intertemporally, may modify their level of compliance to substitute for nonexisting financial markets. We also examine the extent to which an increase in the inflation tax, will bring about an offsetting reduction in regular tax payments, forcing the authority to levy additional inflationary taxation. To asses the empirical relevance of these issues we identified three countries whom, in the past 40 years, recurrently experienced stagflation and financial repression: Argentina, Brazil and Chile. In al three countries we estimated the relationship between evasion and inflation tax, and how compliance changes when economy shifts to a sluggish growth path.

SEQUENTIAL MARKETS WITH PRICE DISPERSION

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Fundaçao Getúlio Vargas

Markets with price dispersion have been studied in one period models based on the simplifying hypothesis that the time spent souring the search that precedes a purchase is sufficiently short to be disregarded. This paper presents a discrete time intertemporal model in which at each period a cohort of buyers come to market to join the remnants of the preceding cohorts who have not yet found an acceptable offer. It is shown that accumulate in the market in the long run is surprisingly small an well defined steady-state demand function is presented.

INFLACIÓN ESTRATÉGICA, INFLACIÓN WALARSIANA E INFLACIÓN (O QUÉ PUEDE ENSEÑARNOS LA TEORÍA DE JUEGOS SOBRE LA INFLACIÓN)

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Este trabajo revisa las propiedades formales y las implicaciones empíricas de la teoría estratégica de la inflación, iniciada por Kydland y Prescott (1977), y Barro y Gordon (1983a).

El supuesto que distingue a la teoría es que el Banco Central no puede comprometerse, ni siquiera en el corto plazo, a mantener una tasa de crecimiento del dinero arbitraria. Este supuesto implica que en cualquier modelo estratégico la tasa de inflación de equilibrio de largo plazo afectada directamente, y no sólo a través de la tasa de crecimiento del dinero, por los incentivos que enfrenta el Banco Central en el corto plazo; y que la correlación observada en equilibrio entre el dinero y la tasa de inflación no es una relación casual.

Si bien la teoría estratégica no ofrece todavía un modelo de la inflación suficientemente general, da una base sólida a la intuición que el marco institucional y político particular de cada país afecta directamente su tasa de inflación de equilibrio. Por lo tanto, la inflación no tiene causas idénticas en todas partes; y el déficit fiscal de largo plazo, si bien importante, no es la única causa fundamental de la inflación.

A PARACONSISTENT POSSIBILITY THEOREM WITH ARROW'S SIX CONDITIONS FOR AGGREGATION DEVICES

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Arrow's Impossibility Theorem, also known as Arrows Paradox, postulates that there are no logical aggregation devices that can be derived from six plausible conditions. The six conditions are: comparatibility and transitivity of individual preferences, unrestricted scope, unanimity, independence of irrelevant alternatives and nondictatorship. The purpose of the present paper is to demonstrate the opposite. Arrow's Paradox derivation is based in Classical Logic foundations in which inconsistent propositions generate trivial conclusions. Nonetheless, this characteristic of Classical Logic is a logical language limitation. Recent developments in Logic lead to a framework in which inconsistent premises do not generate trivial conclusions. One of these developments is the Paraconsistent Calculus C1. This paper applies the Calculus C1 on Arrow's Paradox and derives a new opposite result to Arrow's one: there is a logical paraconsistent aggregation device that satisfies Arrow's six conditions and does not lead to trivial conclusions. This is an important results for the understanding of economic, social and political process since conflicts and contradictions are enclosed in this approach of social choice.

THE FORMATION OF INFLATION EXPECTATIONS IN BRAZIL: A STUDY OF THE FUTURES MARKET FOR THE PRICE LEVEL

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This aper examines the formation of inflation expectations in Brazil by exploring the data from the futures market for the price level (OTN/BTN futures market) from August, 1987 to March 1990. These data are uniquely suited for this purpose, providing a basis for more precisely defined statistical tests ythan the existing ones in the literature, which rely on actual inflation data, inflation forecasts surveys or other financial assets. An asset pricing model á la Lucas (1978) is developed. This model shows that even under risk neutrality these futures prices do not follow a martingale, and that a regression of one day aheahd futures price on the current futures price should generate a coefficient greater than 1. Unit root tests rejected this hypithesis, suggesting that risk aversion is a better characterization of this Brazilian market. The martingale hypothesis is also rejected. The existence of contracts with subsequent maturity dates on any given day makes possible the extraction of inflation expectations for future months. How these expectations jointly react to shocks to the economy provides a basis for tests of the stochastic structure of expected inflation.

ON UNIVARIATE FORECASTING COMPARISONS:
THE CASE OF THE SPANISH AUTOMOBILE INDUSTRY

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Universidad Autónoma de Madrid

The paper presents a forecasting comparison between several univariate methodologies using fixed and time variable parameters. Each method is used to forecast monthly automobile sales up to several horizons in the future. The accuracy of the different methods and models is assessed by comparing several measures of forecasting performance of out-of-sample predictions for various horizons as well as assumptions about certain parameters in the models.

ENTRY RESTRICTIONS
AND THE DETERMINATION OF QUALITY

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Entry restrictions are a common form of regulation in markets and occupa-
tions, either as a means of limiting the size of a market or affecting the quality
of products or services provided by it. This paper analyzes demand, cost and
informational characteristics that affect the impact of this type of policies on
the quality mix of products provided by an industry and the welfare of its
consumers. Selective increases in the costs of entry such as licensing require-
ments and direct restrictions with competitive bidding for entry rights are
considered. We analyze the effects that are obtained when exit is allowed for
and the rights to participate in an industry can be freely traded.

EMISSIONS TRADING FOR MOBILE SOUNCE CONTROL IN MEXICO CIT: AN EXPLORATORY POLICY ANALYSIS

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This concept paper presents an exploratory economic analysis of four mobile emissions control programs for mexico City: a) the command and control no driving day program (*Hoy No Circula*) currently affect and three alternative incentive based regulatory options: b) a fee based program in the form of an tax on the retail price of gasoline at a level to achieve the air quality standards; c) a quantity based program in the form of a marketable mobile emissions permits; and d) a hybrid quantity/price based program in the form of tradeable gasoline coupons. It is shown that the marketable permit programs dominate both the current program and a gasoline tax in economic welfare terms. Further, the marketable driving permit programs are much flexible to both air pollution control authorities in meeting ambient air quality standards, and also to consumers and commercial/industrial users by giving them complete and unrestricted freedom over the use of their vehicles. They offer straightforward possibilities of fine tuning the vehicle emissions control program for controlling pollution episodes without having to close down significant parts of the local economy during pollution emergencies. They can actually improve the distribution of income. While the transactions costs of the programs are unknown at this time, they do not appear to be high, and therefore marketable permits may well be a cost-effective strategy to achieving reduction in mobile source emissions in every season of the year, reducing exclusive reliance on expensive technology and end of the pipe controls. Such practical implementation issues of permit distribution (free annual base endowment), primary and secondary market operation, application to commercial/industrial vehicles, and impacts on the consumer price index are discussed among others. It is concluded that in principle mobile emissions trading programs can be practically implemented and operated with lower economic impacts than current strategies. Suggestions are made for empirical analyses to estimate the economic impacts and feasibility of the programs.

EL SUBEMPLEO SECTORIAL EN MÉXICO

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El objetivo central de este estudio es medir el subempleo sectorial en la economía mexicana. Un objetivo importante de este estudio es desarrollar una metodología general para calcular el desempleo, aplicable a otras economías como las de algunos países Centroamericanos y del Caribe, que cuentan con matrices de insumo producto confiable.

El términos generales, en este estudio se sigue de cerca el método para el análisis del subempleo sugerido por Morishima y Murata, que es el siguiente: primero, se obtiene el salario de equilibrio a partir de una hipotética curva de oferta de mano de obra en competencia perfecta. En seguida, se comparan dos salarios: el salario observado, y el que prevalecería si los mercados fueran perfectos. El subempleo se interpreta entonces como aquella situación en la que el salario observado es menor que el de equilibrio, y el número de subempleados para el sector será el número de trabajadores que, si son removidos de esa actividad, ocasionará que el salario aumente a su nivel de equilibrio.

UNA APLICACIÓN DEL ANÁLISIS
MULTIVARIANTE AL ESTUDIO
DEL MEDIO AMBIENTE

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El análisis de conceptos socio-económicos complejos tales como el medio ambiente, lleva inevitablemente a la utilización de un amplio número de indicadores que tratan de explicar y describir la evolución de dicho concepto.

A este fin, en este artículo se presenta un estudio sobre el medio ambiente mediante la aplicación de una moderna herramienta de análisis multivariante: el análisis de perfiles. A través del seguimiento simultáneo de un variado conjunto de indicadores, este método proporciona elementos descriptivos que sintetizan y evalúan la situación relativa de los principales países industriales en el ámbito del medio ambiente. Para ello se obtienen indicadores de síntesis, así como *perfiles* que recogen la situación relativa del país para cada indicador. Los perfiles aportan una imagen gráfica global de gran capacidad descriptiva.

El resultado principal de este innovador instrumento de análisis en el debate sobre el medio ambiente es, su capacidad para superar la dificultad de agregar en el área ambiental indicadores cuya unidad de medida no es homogénea.

Lograr la parsimonia científica o economía de la descripción es el propósito fundamental que se persigue al aplicar las técnicas de análisis multivariante dando lugar a explicaciones más simples que los datos en que se basan.

TRADE LIBERALIZATION, MARKET STRUCTURE AND PERFORMANCE IN MEXICAN MANUFACTURING: 1984-1989

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This paper investigates the relationship between trade liberalization and performance in Mexican manufacturing industries. Plant-level data from the Encuesta Industrial Anual are used, and special attention is decoded to the treatment of maquila activities. Following the structure-performance method of industrial organization, the determinants of price-cost margins are tested both at the sectorial level. Industry-specific effects appear to account for a substantial part of the observed variation, suggesting the existence of collusion at the sectorial level. But intra-sectorial between-firm technical differences also seem to be important. Despite the use of various proxies for the competitive pressure from imports, the results provide little evidence for the import discipline hypothesis. However this might be due to the distortion introduced by the presence of maquiladoras in the sample.

THE EFFICIENCY OF SECONDARY MARKETS
FOR LATIN AMERICAN DEBT

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Models of debt relief typically assume an efficient secondary market for Latin American foreign debt. Tests of secondary market efficiency have concentrated on looking at the reaction of the prices of this debt to changes in fundamentals describing debt servicing capacity. This paper takes a different tack. As Granger (1986) argues, prices of assets in efficient markets cannot de cointegrated as cointegration implies that movements in the price of one asset *Granger-cause* movements in the price of another asset. One could then use of one price of one asset to forecast the movements in the price of another thus violating the conditions for asset market efficiency. Preliminary results show that the secondary market prices of foreign debt from Argentina, Bolivia, Brazil, Ecuador, Mexico, Peru and Venezuela are significantly cointegrated. The paper goes on to test the lines of *Granger-causality* and explores the implications of noise trading.

GOVERNMENT INVESTMENT, TAX STRUCTURE AND WELFARE ANALYSIS

María Teresa Guin Siu
SUNAT

In most economies the public sector owns significant amounts of capital. Several components of public capital are important imputs into the private production process and therefore affect economic activity. However, the role of public investment, the way it is financed and the welfare effect it generates, is rrely addressed in the economics literature. The purpose of this paper is to analyze the macroecfonomic effects of government investment. In particular, it studies the effects of government investment on the levels of savings, capital formation, output, welfare, and dynamic efficiency. The analysis is based on a dynamic model featuring multiple interacting generations and tax-financed public capital formation.

MONEDA Y CRÉDITO EN LA ECONOMÍA BRASILEÑA: UN MODELO CON VECTORES DE CORRECCIÓN DE ERRORES

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Este artículo investiga la relación entre el dinero, el crédito y el producto agregado, a la luz de la experiencia brasileña en el periodo 1980-1989. Un aspecto esencial del estudio es la estimación de un modelo con vectores de corrección de errores (VEC), lo cual permite la identificación de las relaciones entre las variables en el corto y en el largo plazo, al contrario de las metodologías convencionales que analizan exclusivamente las relaciones en el corto plazo.

El texto se inicia con un estudio de las propiedades estocásticas de las distintas series, prestando atención particular a sus órdenes de integración. Posteriormente, el modelo es estimado a través del método de máxima verosemejanza propuesto por Johansen (1989) y Johansen/Juselius (1990). por último la estimación es utilizada para analizar el padrón temporal de impulsos y respuestas entre las variables.

Un resultado trascendente es que las fluctuaciones del producto agregado brasileño han sido causadas predominantemente por choques de carácter monetario, mientras que los choques de carácter crediticio tienen una importancia menor.

'IS IT MYOPIA OR PRECAUTIONARY SAVING?' AN EMPIRICAL STUDY OF IMPLICATIONS OF TIME-VARYING UNCERTAINTY ON THE OPTIMAL CONSUMPTION BEHAVIOR

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When marginal utility is convex, rational consumers accumulate precautionary savings. If the conditional variances of present value of life-time resources are time-varying, the optimal amount of precautionary savings will also fluctuate. The implications of this time-varying uncertainty on the restrictions of permanent income consumption model are derived and estimated using ARCH-M model. Empirical results identify some resources of time-varying uncertainty and show clear presence of uncertainty premia in expected consumption growth, as another source of explanation of excess growth, excess smoothness puzzle in U.S. consumption time series behavior. This precautionary savings response to changing uncertainty is much stronger in business cycle expansions than in contractions, which is suggestive of possible presence of liquidity constraints, rather than consumer myopia.

LIMITS TO THE POTENTIAL GAINS FROM MARKET INTEGRATION AND OTHER SUPPLY-SIDE POLICIES

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Classical welfare economics demonstrates potential Pareto improvements from *supply-side* policy changes that increase the efficiency of aggregate production. Special cases reviewed here concern market integration in customs unions and the gains from international trade. These classical results rely on incentive incompatible lump-sum compensation of losers. Some extensions to second-best welfare economics are presented. They require that governments freeze most of the parameters of each consumer's budget set, leaving flexible producer prices to clear markets, and uniform poll subsidies to generate actual Pareto improvements. Generally, supply-side reforms are only beneficial when combined with other suitable policies to compensate deserving losers.

INCOMPLETE FINANCIAL MARKETS WITH AN INFINITE HORIZON

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In this paper we study some properties of competitive equilibria for dynamic ex-change economies with infinitely lived consumers and incomplete financial markets. One main feature of these economies is that consumer's budget sets are discontinuous under standard assumptions. Also, even with a finite number of consumers, these economies contain simultaneously equilibria in which the individuals' wealth is finite and equilibria in which the individuals' wealth is infinite. We also investigate from an infinite horizon viewpoint the nature of the indeterminacy of equilibria reported for finite horizon economies. We illustrate that this indeterminacy occurs as a consequence of the terminal conditions that characterize the finite horizon model. The intertemporal nature of our model precludes multiplicity of equilibria of this type. Although we do not address the question of indeterminacy in an infinite horizon economy formally, we argue that under the assumption of exogenous yields, if the equilibrium is not locally unique, it would be necessary to modify an infinite number of prices and resource allocation in order to obtain a new equilibrium.

A MODEL-BASED ESTIMATION OF THE PROBABILITY OF DEFAULT IN SOVEREIGN CREDIT MARKETS

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A model of sovereign credit markets is built to estimate the probability of default. The model shows that equilibrium implies credit rationing and that is it inadequate to include both the level of debt and the spread over Libor as determinants of this probability. Likewise, the model incorporates the idea of sanctions in case of default and it is demonstrated that they play an important role in deterring a country from defaulting. The elements that are found useful in explaining the probability of default are: the degree of openness, a degree of "unluckiness", international reserves and the risk-free interest rate. Model was validated for 33 debtor countries. The empirical results suggest that economic liberalization decreases the probability of default, which implies that such a policy enhances creditworthiness. Also, they suggest that external conditions have contributed substantially to the financial crisis that major borrowers face today; in particular, unluckiness is shown to be important when explaining the probability of default. In addition, penalties reduce the DWL inherent in defaulting. The determinants of the spread over LIBOR are tested separately as an important implication of the model.

LA DEMANDA DE DINERO EN EL
CORTO Y EN EL LARGO PLAZO EN COLOMBIA

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Se examina la estabilidad de la relación entre dinero, precios, ingreso y tasas
de interés con base en datos anuales para el período 1955-1991, y trimestrales
para los veintidos años entre 1970 y 1991. Ninguna de la pruebas utilizadas
permite rechazar la hipótesis de estabilidad, con lo cual se desvirtúan afirma-
ciones sobre supuestos cambios estructurales en la relación histórica obser-
vada entre dinero y precios. Se calculan las elasticidades de corto y largo plazo
de la demanda de dinero con base en la metodología de cointegración y
modelos de corrección de errores. Finalmente, utilizando la técnica de Análi-
sis de Intervención, y otra más sencilla basada en regresión simple, se demues-
tra que hay asimetría en la respuesta de la demanda de dinero a aumentos y
a reducciones en la tasa de interés, siendo bastante mayor la elasticidad
cuando sube el costo de oportunidad de mantener saldos monetarios.

AN ALTERNATIVE INTERPRETATION
OF THE EQUAL LOSS PRINCIPLE
FOR BARGAINING PROBLEMS

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The purpose of this paper is to provide a new solution concept for bargaining problems, which modifies Chun's Equal-Loss Solution in a way that ensures the individual rationality. We also consider its lexicographic extension which turns out to be both individually rational and Pareto Optimal. Characterizations of the proposed solutions are also provided.

PROPIEDAD SOCIALISTA
Y MECANISMO ECONÓMICO

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El intento de perfeccionar el funcionamiento del organismo económico tiene que ir precedido por una valoración crítica precisa de su modo de accionar para luego llegar a formular con certeza sus principales fallas y limitaciones. Pero, tanto en la formulación de las soluciones, como en el empeño preliminar de encontrar y describir las fallas del sistema, existen grados en el conocimiento. El escaño superior de éste se alcanza cuando nos encontramos en la posibilidad de extraer, selectivamente, de la compleja e intrincada diversidad del fenómeno, sus factores o elementos principales y establecemos las interrelaciones de causalidad crítica que explican, primero, el comportamiento errático de los procesos y luego, la lógica interna necesaria de su desenvolvimiento conveniente. Esto no equivale a otra cosa que a la *modelación* en dos etapas del organismo económico en su funcionamiento. En el presente trabajo se exponen los resultados de la aplicación de tales criterios metodológicos al análisis del mecanismo económico secularmente empleado en la economía socialista.

AGRICULTURE, EXCHANGE RATES AND MACROECONOMIC POLICY IN A DEVELOPING ECONOMY: THE CASE OF PERU

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Recent international literature of the macroeconomics of agriculture states as one of its building blocks that agriculture is a tradable sector. It follows from this assumption that an exchange rate devaluation would improve the level of agricultural prices. A fiscal expansion, on the other hand, would increase the price of non-tradable if (as expected) government predominately consumes nontradable goods, hence causing a fall in agriculture relative prices. These important results, however, depend upon the degree of treatability of agriculture and the other sectors of the economy. Furthermore, in the short run the effects of macroeconomic policies on agriculture may be quite sensitive to the various price and income elasticities. If storage facilities are limited, they will also be sensitive to the responsiveness of international trade to supply and demand imbalances.

To examine this theme the paper develops a three sector open economy model, in which the links with the international market, distributional issues and the size of the price and income elasticities play a crucial role. A comparative statics analysis is then carried out to examine the impact of an exchange rate devaluation and a fiscal expansions. Finally, some of the implications of the model are tested econometrically. Although the analysis refers to the case of Peru, it may also be relevant to other developing countries.

THE EFFECT OF OVERLAPPING AGGREGATION IN UNIT ROOTS TESTS

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This article studies the effect of using moving-average filters on identification, estimation, prediction and on the seasonal and trend components of time series models as well as the dynamic relationships between variables. The purpuse of this paper is to extend some of the results given in Hotta *et al.* (1991) to unit roots tests.

A SENSIBILIDADE CICLICA DA OFERTA DE TRABLHADORES SECUNDÁRIOS NO BRASIL METROPOLITANO: UMA ANÁLISE DE SÉRIES TEMPORAIS BASEADA NA PME/FIBGE

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O paper utiliza os dados mensais da Pesquisa Mensal de Emprego da FIBGE para avaliar a sensibilidade cíclica da oferta de trabalhadores secundários em seis áreas metropolitanas do Brasil durante o período 1982-1987. Nestes anos a economia brasileira apresentou variações acentuadas no seu ritmo de atividade, destacando-se o período recessivo de 1981-1983 e os anos de recuperação (1985) e de euforia do Plano Cruzado (1986).

Os fundamentos teóricos do estudo repousam na Teoria da Oferta de Trabalho e de como esta oferta responde as variações de curto prazo no ritmo da atividade económica.

O modelo é de séries temporais com variáveis defazadas. Estimar se-á uma equação principal e outra auxiliar por sexo, e grupos de idade para cada uma das seis áreas metropolitanas. Com base nos coeficientes estimados constrói-se um índice de sensibilidade cíclica. A evidência é a de que a oferta de trabalhadores secundários no Brasil Metropolitano é anticíclica.

SOBRE LOS EFECTOS REALES DE VARIACIONES SUCESIVAS EN LA TASA DE CRECIMIENTO MONETARIO EN PRESENCIA DE INDEXACIÓN ENDÓGENA AL TIPO DE CAMBIO FLEXIBLE

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Cuando en una economía crecientes tasas de inflación originan que aumente la proporción de los bienes domésticos cuyo precio se indexa al tipo de cambio flexible, incrementos sucesivos y proporcionales en la tasa de crecimiento monetario generan cada vez menores incrementos en el producto.

El nivel general del precios se representa como un promedio ponderado de los niveles de precios de los sectores indexado y no-indexado. El valor relativo de los ponderadores refleja la proporción de la economía en la cual los precios de los bienes domésticos se determina en moneda extranjera y se traduce a moneda nacional usando el tipo de cambio corriente. Se considera que dicha proporción depende del valor de la inflación en el largo plazo (estado inflacionario).

El nivel de precios del sector no-indexado se considera predeterminado ante un cambio en la política monetaria. Sin embargo, el nivel de precios del sector indexado respondo uno-a-uno a variaciones en el tipo de cambio, por lo que puede alterar su valor instantáneamente. De esta manera, mayores tasas de crecimiento monetario general mayores tasas de inflación, las cuales originan que el sector indexado aumente como proporción de la economía y, por lo tanto, que el nivel general de precios sea cada vez mas sensible a movimientos en el tipo de cambio.

Por esta razón, el nivel general de precios puede pasar de ser totalmente predeterminado a ser totalmente flexible. En este último caso, un incremento adicional en la tasa de crecimiento monetario origina que el tipo de cambio se deprecie instantáneamente a su nuevo valor de largo plazo, y crecerá a partir de ese momento a la misma tasa que el dinero y el tipo de cambio nominal. De esta manera ninguna variable real es alterable en el proceso de ajuste. En otras palabras, el dinero es *super neutral* en presencia de una completa indexación al tipo de cambio libre. Este resultado es importante en materia de estabilización porque una importante reducción en la tasa de inflación puede ser alcanzada a través de una considerable reducción en la tasa de crecimiento monetario teniendo muy bajos costos en términos de recesión y desempleo.

LIQUIDITY CONSTRAINTS AND DEBT CONSTRAINTS

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Most previous work on liquidity constraints has focused on the extreme case in which no insurance and only a fixed amount of borrowing is possible. A less extreme point of view is one in which borrowing is limited because debts are costly to collected, but it is possible to insure to the extent that the payments are colletable. Our goal is to study the connection between these two models and the complete market model. We do so in the context of a simple example with a single perishable consumption good, and two types of traders who alternate randomly between having large and endowments.

APERTURA COMERCIAL, PRODUCTIVIDAD Y DESARROLLO TECNOLÓGICO: EL CASO MÉXICO

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El trabajo analiza los cambios ocurridos en la asignación de recursos, la productividad factorial total y la relación entre la inversión extranjera y la eficiencia del aparato productivo ocurridos a partir de la apertura comercial en México. Se presenta también un estudio de caso relativo al sector petroquímico y su experiencia con el proceso de apertura comercial. La investigación concluye que como resultado de la apertura, la tasa de crecimiento de la productividad factorial total en el sector manufacturero se incrementó de un promedio de 1.1% anual entre 1981 y 1985 a cerca del 4% entre 1986 y 1989, lo que muestra que la competencia internacional tiene efectos positivos sobre el aprovechamiento de los recursos productivos. La experiencia del sector petroquímico muestra la importancia de la reforma integral a la política económica que acompañó a la apertura comercial. La racionalización de los subsidios, la desregulación petroquímica y la perspectiva de integración al mercado norteamericano han promovido ajustes importantes en la operación del sector que se han visto reflejados en los tamaños de planta, exportaciones y tasas de utilización.

COORDINATION FAILURES AND THE COSTLY TRANSITION FROM STABILIZATION TO GROWTH

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A stylized fact on post-stabilization economies is that getting the fundamentals right, even through necessary, is not sufficient to ensure a prompt resumption of growth. In those Latin American economies actually stabilizing, repatriation of private assets provides a crucial souce of financing. Uncertainty whther stabilization can in fact be sustained confers an option value to postponing investment in domestic real assets. This positive externality of the probability of policy continuation coupled with the positive effect of a lower likelihood of program failure on the returns to domestic real assets can generate multiple expectational equilibria. In particular, a *pessimistic* zero-repatriation trap and a Pareto-superior *optimistic* high investment equilibrium may co-exist.

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ESTIMACIÓN DE UN MODELO DE ECUACIONES SIMULTÁNEAS CON VARIABLES DEPENDIENTES LIMITADAS: UNA APLICACIÓN A LA INDUSTRIA ESPAÑOLA

José M. Labeaga*
UNED y Fundación Empresa Pública

Ester Martínez
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Con la vista puesta en 1993, fecha prevista de entrada en vigor del Acta Única Europea, las empresas están tratando de adecuarse en crecimiento, competitividad, productividad, etc., al cambio en la estructura de los mercados que este hecho conlleva. Por múltiples razones, parece adecuado realizar estudios de carácter microeconómico para investigar el comportamiento de las empresas en la toma de decisiones respecto a temas como penetración en mercados exteriores, realización de actividades de innovación tecnológica u obtención de mayores cuotas de mercado.

El propósito del trabajo es evaluar este tipo de decisiones teniendo en cuenta que se tomarán de forma simultánea. El modelo se plantea en un mercado de competencia monopolista y consta de tres ecuaciones que recogen el empleo, las exportaciones y la existencia de gastos en $I+D$. Su estimación se lleva a cabo siguiendo la metodología econométrica contenida en los trabajos de Nelson y Olson (1978), Amemiya (1978, 79) y Heckman (1978) y generalizada en el artículo de Lee (1981). En todos los casos, los métodos utilizados (Nelson-Olson y dos procedimientos de Amemiya) proporcionan estimadores consistentes, aunque sólo el estimador MCG de Amemiya resulta ser eficiente.

La aplicación del estudio se lleva a cabo con un corte transversal de 2510 empresas industriales correspondientes a 1986, tomado de la Central de Balances del Banco de España.

TRANSITION PROBLEMS IN ECONOMIC REFORM: AGRICULTURE IN THE MEXICO-US FREE TRADE AGREEMENT

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SECOFI

Sweder van Wijnbergen
The World Bank and CEPR

How fast should Mexican agriculture be incorporated into the North-American FTA? What policies should characterize the transition? We use Mexican agriculture as a case study to analyze the transition problems that arise in most major economic reforms. We focus on the implications for policy design of the absence of efficient capital markets; on the welfare costs of reforming only gradually; on incentive problems created by trade adjustment policies; and on the redistributive aspects of policy reform in the presence of realistic limits on available intervention instruments. Our key point is that adjustment should focus on increasing the value of the assets owned by the groups affected, and not on direct income transfers of programs targeted on output or other characteristics controlled by the beneficiaries. We target adjustment on what people have, as opposed to what people do.

A NON-WALRASIAN GENERAL EQUILIBRIUM MODEL WITH MONOPOLISTIC COMPETITION AND BARGAINING

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In a general equilibrium framework, this paper tries to reproduce and impor-
tant stylized fact of real economies: firms set prices under demand uncertainty
while concumption decisions are taken when prices are already known.
Under these conditions, there is place for quantity rationing equilibrium since
preferences are revealed when prices are already sen and market-clearing can
not be attained through changes in prices. *Demand heterogeneity* is introduced
in the model and related to *demand uncertainty*: when firms set prices, their
own market shares are not known with certainty, even if aggregate demand
and the distribution of market shares are common knowledge. The main
properties of the aggregate equilibrium are: *a)* some market are demand
constrained while other market are supply constrained, *b)* aggregate produc-
tion is smaller than aggregate demand and full-employment output, *c)* there
is (involuntary) unemployment, and *d)* effective demand is greater than
notional demand, implying a positive spill-over effect.

INDUSTRIALIZACIÓN, EXPORTACIONES DE MANUFACTURAS Y CONTENIDO DE INSUMOS PRIMARIOS

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Banco Interamericano de Desarrollo

El proceso de industrialización que tuviera lugar en América Latina hasta la década de los años ochenta, ha sido criticado debido al nivel, alcance y duración de la protección otorgada a la industria manufacturera. Con el objeto de contribuir al análisis de estos aspectos del desarrollo, se llevó a cabo una investigación en Argentina y Colombia, países donde la industrialización se efectuó utilizando fuertes incentivos a la producción. El trabajo se propuso investigar la eventual existencia de exportaciones de productos manufacturados originados en la sustitución de importaciones que hubieran crecido a lo largo del tiempo en forma sostenida, indicando que no se trata de un fenómeno esporádico y mostrando la posible existencia de procesos dinámicos que acercan los niveles de productividad a los internacionales. Además, se analizaron las composiciones de insumos primarios de dichos productos para determinar la medida en que las mismas reflejan los cambios en la dotación de insumos *primarios* resultantes de la industrialización.

MARKET EFFICIENCY, PURCHASING POWER PARITY AND COINTEGRATIONS IN CENTRAL AMERICAN BLACK FOREIGN EXCHANGE MARKETS

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The assumptions that black market exchange rates follow a random walk and/or are determined by the purchasing power parity condition are commonly imposed in theoretical macroeconomic models for developing countries with a dual foreign exchange market and serve as policy guidelines for setting crawling-peg rules and Central Bank intervention. Traditional parametric and non-parametric testing of black market efficiency, under the weak form, have some limitations at defining it without any ambiguity whenever it faces nonstationary time series. Their evidence is compared to unambiguous results arising from the application of the theory of cointegration to the study of market efficiency and purchasing power parity in the black market exchange rates of three Central American countries: Costa Rica, El Salvador and Guatemala.

MICROECONOMIA, DISTRIBUCIÓN DEL INGRESO Y SECTOR INFORMAL

Eduardo Lora
FEDESARROLLO

Juan Mauricio Ramírez*
Stanford University

El propósito central de este estudio fue construir y utilizar un modelo de equilibrio general para evaluar y comparar el efecto que tienen sobre la situación de los pobres y los distintos grupos de informales diversas políticas macroeconómicas en Colombia.

La especificidad del modelo aquí desarrollado frente a otros modelos de este tipo consiste en haber incorporado el funcionamiento de un mercado laboral segmentado pero con vinculaciones internas (*migraciones*) y en haber hecho explícita la estructura de distribución del ingreso resultante de la existencia de distintas formas de ocupación con diferentes niveles de ingreso promedio y distintas estructuras de distribución internas.

ESTIMACIÓN DE LA DEMANDA DE EMPLEO EN EL SECTOR INDUSTRIAL ESPAÑOL USANDO DATOS DE PANEL

María José Lorenzo Segovia
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Fundación Empresa Pública

En el marco de un modelo dinámico definido por la conducta optimizadora de las empresas, y por la existencia de costes de ajuste de plantillas, en el trabajo se examinan los determinantes del empleo en la industria española para el período 1982-1986. Para ello se estima un modelo dinámico de demanda de empleo, haciendo uso de una muestra constante de 721 empresas, deducida a partir de los datos que proporciona la Central de Balances del Banco de España.

Puesto que los resultados iniciales de la estimación revelan la existencia de un mercado sesgo a la baja en los coeficientes del modelo, se destina una buena parte del trabajo a investigar el origen de los mismos. Específicamente, se presta una atención especial a los errores de medida que potencialmente afectan a las variables explicativas incluidas, cuya presencia, provocará un sesgo a la baja (hacia cero) en los coeficientes estimados.

La estimación se lleva a cabo adoptando una técnica de Variables Instrumentales (el Método de los Momentos Generalizados), mediante la cual se garantiza la consistencia de los estimadores obtenidos en un contexto de panel dinámico y con errores en las variables.

CROSS-BORDER EXTERNALITIES AND TRADE LIBERALIZATION: THE STRATEGIC CONTROL OF POLLUTION

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A venerable topic in public finance theory is the question of the most appropriate intervention in a market characterized by negative externalities in production. The first-best policy is a tax in the externality itself or, if there are no means to reduce the level of the externality per unit of production (such as pollution abatement techniques), a tax on production will serve the same purpose. But there are circumstances in which the choices available to the social planner are circumscribed: the particular case that we address is when the good is traded internationally.

Our specific interest in this problem, was kindled by the negotiations on trade liberalization in North America, especially those for a trilateral North-American Free-Trade Agreement. We look at the appropriate policies for the (socially planning) governments of both importing and exporting countries, both when the countries are free to impose taxes on trade and when they are constrained by a free-trade agreement.

DETERMINANTES DO DESEMPREGO URBANO
NO BRASIL

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Universidade de Sao Paulo

Este texto investiga empiricamente, e com a utilização do instrumental eco-
nométrico, as causas do desemprego urbano no Brasil. Buscar-se-á fornecer
subsídios a melhor compreensão do fenômeno, com o objetivo de orientar
propostas concretas para combatê-lo em todas as suas formas. Do ponto de
vista analítico, pretende-se averiguar se o desemprego aberto obedece aos
padrões conhecidos internacionalmente, no que diz respeito aos fatores que
o determinam. Com este objetivo, este artigo contém o modelo em sua forma
reduzida, apresentando as variáveis explicativas a serem utilizadas. Destaca-
remos algumas variáveis captando aspectos referentes aos atributos pessoais
dos trabalhadores, enquanto outras captam características sociais e institucio-
nais.

O PROCESSO INFLACIONÁRIO NO BRASIL NA DÉCADA DE OITENTA

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Universidade de Sao Paulo

O artigo procura analisar o processo inflacionário destacando tanto aspectos ligados ao comportamento da oferta agregada bem como aspectos ligados à demanda agregada. No tocante ao comportamento da demanda agregada enfatizamos a questão de déficit público, enquanto, no tocante à oferta agregada destacamos o papel exercido pela política salarial. Destacamos neste caso o difrencial entre o salário real desejado e o efetivo como causa efetiva dos movimientos saláriais e procuramos também analizar o papel do preço dos bens competitivos versus o dos não competitivos.

CENTRALIZED *VERSUS* DECENTRALIZED STRUCTURES IN MORAL HAZARD PROBLÊMS

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This paper wants to contribute to the discussion on theory of organizations exploring one aspect of the structure of the organizations in the framework of modern agency theory: the link between the agents within the organizations. In cases where information asymmetry corresponds to a moral hazard situation, the superiority of centralized organizations is proved. Even more, we shall prove that the following two situations are equivalent: *i)* a decentralized structure, and *ii)* a centralized structure where agents can reach monetary agreements contingents to the outcome. The intuition is the following. The optimal contract that an agent sign with other agent internalyse insurance goals between them. Hence, delegating to an agent to contract of other participant is equivalent from the principal point of view to allow monetary agreements in a centralize structure. This result shows the the disadvantages a decentralized structure must compensate in order to perform as well as a centralized one. In any case, in a moral hazard situation, centralized structures are superior to decentralized ones.

PARALLEL IMPORTS, DEMAND DISPERSION AND INTERNATIONAL PRICE DISCRIMINATION

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Parallel import, or gray-market imports, are imports obtained from unauthorized channels, typically from distributors authorized by the manufacturer to sell the product only in other countries. Opponents see parallel imports as free-riding by outside distributors on investments of the local distributor. Proponents see parallel imports as a response to manufacturers' international price discrimination, proponents are typically countries that perceive they are charged the higher prices. This paper focuses on *global welfare*. Abstracting from free riding, we ask if the price discrimination explanation would justify support for parallel imports (de facto, denying a manufacturer use of exclusive distribution territories internationally).

We considered a manufacturer serving multiple markets (*countries*) under uniform pricing (as arises if parallel imports are freely allowed) or multimarket discrimination. We compare world welfare under these regimes, for different degrees of demand dispersion across markets. Uniform pricing avoids output misallocation, but can result in low-demand markets being dropped if demand dispersion discrimination dominates. Since demand dispersion internationally is relatively high, parallel imports-by inducing manufacturers to drop markets-could well reduce global welfare, even ignoring free-rider issues.

We also consider *mixed systems*, whereby the manufacturer must charge one price for a block of markets but can discriminate across blocks. Mixed systems welfare dominate both polar regimes. Surprisingly, perhaps, for global welfare the optimal partition into blocks does not put together markets that are very similar in demand.

GRANDMA'S DRESS, OR WHAT'S NEW FOR OPTIMAL GROWTH

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For discrete time, using and assumption of limited non-complementarily over time, in 1960 Koopmans showed that there exist welfare functions for which the rate of time preference is variable. Using such a criterion Beals and Koopmans showed in 1969 that the long run optimal capital path may depend on initial wealth, so that not all of the conclusions of optimal growth theory with a constant rate of time preference hold.

A more thorough analysis shows that a suitable limiting process allows one to define a utility function for continuous time with a variable rate of time preference which cannot be represented in closed form. The present investigation applies such preferences to optimal growth. The results are in accord with those obtained by Beals and Koopmans for the discrete time case. In particular —when the rate of time preference is allowed to vary— a country may decide not to undertake the effort of economic development when its initial capital endowment is below some critical level, whereas if it were above that level it would be willing to sacrifice its present generation for the well-being on the future ones. It is impossible to obtain such a result with a constant rate of time preference if the case of a simple neoclassical technology.

SISTEMA BANCARIO Y POLÍTICA ECONÓMICA: UN MODELO MACROECONÓMICO DE INTERMEDIACIÓN BANCARIA APLICADO AL CASO DEL PERÚ: 1980-1990

Geneviéve Marchini
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El trabajo busca investigar los determinantes del proceso de intermediación bancaria en el Perú durante la década 1980-1990, poniendo especial énfasis en los efectos del manejo macreconómico sobre el desempeño del sistema bancario. Para ello, se construye un modelo macroeconómico que de cuenta de las interrelaciones que se dan en este sistema, de los agentes involucrados y de los principales mercados de activos y pasivos bancarios. En un segundo momento, se hace una presentación sucinta del entorno macroeconómico de las políticas aplicadas en el área financiera -liberalización truncada seguida de acentuación del control y de la represión financiera y finalmente intento de estatización en 1987- y de los principales indicadores relativos al sistema bancario.

La estimación econométrica del modelo se ha realizado en dos formas: agregada y desagregada por tipo de monedas, tomando en cuenta de esta manera el proceso de dolarización que tuvo lugar a lo largo del período. Finalmente, la aplicación del filtro de Kalman a las ecuaciones centrales del modelo permite distinguir dos momentos de cambio estructural en el período estudiado, traduciendo el proceso de adaptación de los agentes a nuevas *reglas del juego*.

LA FORMACIÓN DEL MERCADO DE VALORES DURANTE EL PORFIRIATO

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El Colegio de México

La ponencia tiene como objeto destacar las características de un mercado de capitales en formación. Se ha elegido el porfiriato, por considerar que en este periodo surge el marco institucional que da cabida a la integración de un mercado de valores.

El análisis se ubica en la última década del siglo XIX. Es en estos años en los que las actividades financieras cobran mayor importancia, sobretodo si se consideran los cambios institucionales derivados del esquema económico del porfiriato. En efecto, la renegociación de la deuda externa en 1888 (mejor conocida como Conversión Dublán), la ampliación de la red bancaria, las reformas al Código de Comercio y el crecimiento sostenido de la economía son, entre otros, un conjunto de factores que dan pauta a un comportamiento cualitativamente distinto en las operaciones en el mercado de valores.

Aun cuando el intercambio de valores mineros data desde mediados del siglo XIX, en la década de los años noventa del siglo pasado se integran los elementos formales del mercado de valores mexicano. Las operaciones se amplían a valores bancarios, industriales y, principalmente, públicos.

La ponencia incorpora un análisis simple de series de tiempo, con el que se trata de probar la eficiencia del mercado a partir de las cotizaciones de tres valores entre 1892 y 1900. Cabe destacar que la prueba que se aplica corresponde a la eficiencia débil, que implica que la historia de precios de un valor no contiene ninguna información relevante para su utilización en el pronóstico del precio de ese mismo valor.

SELF-EMPLOYMENT: ENTREPRENEURSHIP RESERVOIR OR REFUGE FOR THE DESTITUTE?

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One of the distinctive characteristics of labor markets in developing countries compared to developed countries is the extension of self-employment. Two opposing views have dominated the discussion about the nature of self-employment in LDC's. In the *entrepreneurship reservoir* vision self-employed workers are seen as receiving returns to an unobserved factor (typically managerial ability), and thus choosing to be self-employed. In the *refuge for the destitute* vision, they are seen as part of the surplus labor force excluded from modern sector jobs, and therefore reduced to eke ourt of living in menial and low productivity activities.

My main contention is that the nature of self-employment changes with different labor market states. As equilibrium in the labor market involves rationing of the better jobs, workers rationed out of the high-wage sectors have different alternatives according to the state of the labor market. In tight labor markets, the rationed-out workers can go into the low-wage sectors or into self-employment, with their choice depending on their access to capital and their endowment of *managerial ability*. When unemployment is high, workers are altogether rationed-out of wagte jobs and reduced to self-employment, independently of their access to capital and endowments of *managerial ability*. In order to prove this hypothesis an analysis of employee wages and self-employed incomes in Venezuela in 1977 and 1985 is done.

BOOTSTRAPPING ELASTICITIES:
AN APPLICATION TO KLEM MODEL

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Since elasticities are nonlinear functions of estimated parameters, their standard errors, when estimated, typically are estimated using large-sample approximations or, more recently, using the bootstrap method. This paper applies the bootstrap method to the KLEM model and compares the confidence intervals produced by both methods. Monte Carlo results show that the bootstrap constitutes an improvement over the large-sample approximation.

INTEGRACIÓN VERTICAL Y
COMERCIO INTERNACIONAL

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En el presente trabajo nos concentramos en el estudio de las integraciones verticales entre empresas del país que liberaliza su economía y entre empresas de este país con empresas extranjeras, y de la política comercial y de la inversión extranjera directa por parte de los gobiernos de los países a los que estas empresas pertenecen. Analizamos la integracón vertical como una estrategia de las empresas para competir en el mercado nacional y se estudia la manera como pueden intervenir los gobiernos de ambos países para maximizar el bienestar.

LA EFICIENCIA DEL MERCADO ACCIONARIO
EN MÉXICO

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Debido a que al analizar la información histórica contenida en las series de
precios de las acciones que cotizan en la Bolsa Mexicana de Valores, se pueden
obtener rendimientos superiores a los normales, ha surgido la interrogante
acerca de la eficiencia del mercado accionario de México. Con el objeto de
colaborar a contestar esa pregunta se desarrolló la presente investigación, en
la cual se aplican tres pruebas estadísticas para comprobar la eficiencia del
mercado accionario en su forma *débil*. Para probar el recorrido aleatorio de
los precios de las acciones se utilizaron las siguientes pruebas: la prueba de
corridas o de los signos, el método de la correlación serial y el Modelo de
Fijación de Precios de Activos de Capital. Los resultados reflejaron que no
todas las acciones siguen un comportamiento aleatorio y que en gran parte
de ellas existe una alta correlación entre los precios de un día y el día
inmediatamente anterior. Además, también se encontró que las acciones
experimentan rendimientos muy superiores a los rendimientos requeridos
tomando el riego del mercado. Con base en estos resultados se pudo concluir
que el Mercado Accionario Mexicano es ineficiente en su forma *débil*.

THE TERMS OF TRADE
AND ECONOMIC FLUCTUATIONS

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A three-good dynamic stochastic model of a small open economy is used to examine the role of terms-of-trade shocks as a driving force of business cycles. Stylized are obtained from data on the G-7 and 23 developing countries. The model is parameterized to reflect the economic structure of industrialized and developing nations, and equilibrium co-movements of these artificial economies are computed numerically. Results show that the model mimics the stylized facts more accurately then one good-models, and that both productivity and terms-of-trade shocks are important for explaining economic fluctuations.

The model integrates elements of real business cycle theory with the intertemporal equilibrium framework developed in small open economy models of the 1980s. Savings and investment are endogenous, individuals consume three goods (nontradable, exportables and importables), physical capital is tradable and, in addition to this capital, foreign financial assets are also a vehicle for savings. Stochastics disturbances affect productivity and the terms of trade.

Previous work has shown that a one-good real business cycle model of a small open economy mimics most stylized facts, with the exception that savings and consumption are almost perfectly correlated with output. These unrealistic features result from weak intertemporal consumption substitution in an environment where the real interest rate (i.e. the intertemporal relative price of consumption) is exogenous. In contrast, the three-good setting proposed here allows for the intertemporal relative price of consumption to be affected by changes in the terms of trade. The model also examines the relevance of productivity changes vis-a-vis fluctuations in the terms of trade as sources of business cycles.

This model is also useful for understanding business cycles in developing countries. These countries import large amounts of capital good and manufactures, and rely excessively on exports of commodities. Shocks to the terms of trade affect strongly the productivity if investment and domestic relative prices. The mechanism by which changes in these produce economic fluctuations is well captured in real business cycle models, although until now research in this area has not focused on developing countries.

DISCRETE TIME FINITE HORIZON APPROXIMATION OF OPTIMAL GROWTH WITH STEADY-STATE INVARIANCE

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The computation of nonlinear intertemporal optimization requires time-aggregation assumptions. This consist in choosing a specific gridding of the time horizon, and to consider the solution computed using this restricted set of dates as an approximation to the underlying continuous time problem (or to a more desegregated discrete-time formulation). A procedure generally adopted for time aggregation in applied intertemporal optimization economic models is inappropriate as it introduces a dependency of the solution steady state to a specific choice of sequence of time intervals. We establish necessary and sufficient conditions to avoid this dependency, i.e., to ensure that the discretization satisfies steady-state invariance. The result is a considerable improvement in the numerical accuracy of the time-aggregated approximation. We show that these conditions apply to a broad class of models such as multidimensional intertemporal problems and endogenous growth models and may therefore prove extremely powerful in applied works such as applied general equilibrium modelling.

AN OVERLAPPING GENERATIONS
GROWTH MODEL UNDER A FISCAL ANALYSIS

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In an endogenous two sectors growth model, King and Rebelo (JPE, 1990) simulate for stationary equilibriums, the effects on growth and welfare of an increase in lump-sum taxes on income. Their results are spectacular. The authors show that the excess 10% average rate of income tax in U.S. over the Japan's one for the period 1965-1975 has impedded the American GDP growth rate to increase by 75% and has cost more that 60% in welfare. This paper shows that with the same engine of growth (human capital) as in the paper of King and Rebelo but under another structure the results are reversed. With an overlapping generations structure rather of the Ramsey type, the same excess in the average income tax enlarges the GDP growth rate by 15% and welfare by 2%. This asymmetry is generated by the often forgot human capital saving rate. The paper stresses the importance for growth of this economic indicator. Moreover the calibration procedure of this wrowth model points out a new agregation problem for empirical studies. Finally, the technique of simulation used generates results (unlike King and Rebelo) in as well as out of the stationary equilibrium path.

STRATEGIC INFORMATION MANIPULATION
IN DUOPOLIES

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This paper studies a duopoly market in which firms are uncertain about market demand and can draw inferences concerning demand from observations of their outputs and market price. Firms may adjust their output away from myopically optimal levels to effect the informativeness of the market price. We depart from previous work on strategic information transmission by assuming that firms' quantities are observed. As a result, firms can manipulate not the direction in which beliefs are revised (as in signal-jamming models) but the extent to which belief revision occurs. Firms will adjust initial quantities to make prices either more or less informative, and hence to increase or decrease the extent of belief revision, depending upon whether information has positive or negative net value. We develop conditioned and present examples under which the value of information is positive and negative and under which firms will increase or decrease quantity to manipulate information.

TESTING FOR WAGE LEADERSHIP PROCESSES IN THE CHILEAN ECONOMY, 1974-1991

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As in other Latin American countries, wage evolution in chile has been largely influenced bu government policies aimed at controlling inflation and gaining competitiveness in foreign markets. The economic authority has not only fixed public sector and minimum wage variations but has also played a significant role in the definition of private sctor wage adjustments.

However, in latter years important changes have occurred both in the structure of the Chilean economy and in the functioning of the labor market. In effect, the importance of the public sector in the economy has been reduced, and since 1982 the degree of wage indexation has decreased and the public wage adjustment laws no onger apply to the private sector.

The aim of this research is to test the influence of government regulations on wage determination and the existence of a wage leadership process by public servant wages. Particularly, the hypothesis to be tested, through Granger type causality test, is that private sector wages followed those of the public sector in a time path. Additionally, the behavior of small *versus* medium *versus* large private firms will be also examined.

LA MATEMÁTICA ELEMENTAL DEL PROCESO DE VALORIZACIÓN DEL CAPITAL

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MIDEPLAN

En el trabajo se hace uso de herramientas elementales del álgebra y el cálculo diferencial para formalizar los principales resultados de la teoría del plusvalor absoluto sujeto a cuantificación. Con ello, tesis teóricas importantes son sintetizadas y aclaradas gracias al lenguaje conciso de las matemáticas. El principal aporte consiste en establecer matemáticamente la diferencia entre la fuerza de trabajo en cuanto creadora de valor y la fuerza de trabajo en cuanto parte del adelanto del capital.

INDEXACIÓN FINANCIERA, AHORRO PRIVADO Y SENSIBILIDAD MACROECONÓMICA: EL CASO DE CHILE

Felipe Morandé
ILADES/Georgetown University

La indexación financiera es un fenómeno concurrente con la existencia de procesos inflacionarios crónicos pero que no suele desarrollarse si no es con el impulso de una acción del estado en la materia. Esta acción del estado puede ser en el ámbito de la regulación de los mercaods financieros y/o en la introducción de instrumentos de deuda pública cuyos retornos se vinculan al comportamiento pasado de la inflación. La historia de la indexación financiera en Chile comienza en los años sesenta atada al ahorro para la adquisición de vivienda, en mercados financieros fuertemente regulados por la autoridad. Más adelante se extiende a otras formas de deuda y activos financieros dando un fuerte impulso a los mercados financieros en general. Sin embargo, los efectos sobre el ahorro privado total y sobre el ahorro nacional son menos evidentes. Finalmente, la evidencia parece indicar que la sensibilidad de la inflación frente a la indexación financiera no es muy significativa.

DO MORE EXPENSIVE WINES TASTE BETTER?
A HEDONIC ANALYSIS OF SWEDISH DATA

Marc Nerlove
University of Pennsylvania

In this paper, a hedonic price function for wine is estimated using Swedish data, 1989-1991. Implicit prices for quality attributes are determined not from a regression of variety price on a vector of quality attributes, but rather from a regression of quantity sold (adjusted for weeks of availability) on price and quality attributes. Use of such a *reduced form* is justified by the assumption that prices and attribute contents can be taken as exogenous to the Swedish consumer. Price elasticity is estimated to be about -1.65 holding quality constant, showing that Swedish consumers are highly sensitivity to price. Many quality attributes are found to be significant determinants of demand, but tasters' overall evaluation is not one of them.

GROWTH MODELS WITH ENDOGENOUS POPULATION

Marc Nerlove
University of Pennsylvania

Malthus considered in the interaction between endogenous populations and per capita income in an aggregative growth model in order to remedy the deficiencies in his model. Recent work attempts to modify his basic assumptions. I review the work of Boserup (1990), Pitchford (1974), Lane (1977), Dasgupta (1984), Meade (1955), among others. It is important to make the distinction between endogenous population change and endogenous fertility. Population may change endogenously if a model of economic growth for reasons other that endogenous fertility, but the latter always implies endogenous population change on account of fertility decisions at the household level which vary because of the constraints which these face (or possible because of factors which affect tastes).

TESTING A SIMPLE JOINT HYPOTHESIS OF RATIONAL AND ADAPTATIVE EXPECTATIONS WITH BUSINESS SURVEYS: AN EXERCISE IN SIMULATION-BASED INFERENCE

Marc Nerlove and Til Schuermann*
University of Pennsylvania

We presents a framework which allows for the joint tasting of the adaptive and rational expectations and variables in the information set, is assumed in order to test parameter restrictions implied by the expectations hypotheses. The nature of the data, which are responses to business surveys and are all categorical, requires simulation techniques to obtain maximum-likelihood estimates. We use a latent variable model which allows for the construction of a simple likelihood function. weaver, this simple likelihood contains multi-(four) dimensional integrals and requires simulators to evaluate. Simulated maximum-likelihood estimation is carried out using the smooth recursive conditioning (SRC) simulator due to Gewekem Hajivassiliou, Keane and McFadden, a method which is consistent and has low variance. The latter is crucial when maximizing the log-likelihood directly. Identification of the parameters is achieved by placing restrictions of the response thresholds and/or the variances. We find that we can reject both the rational and adaptive expectations hypothesis.

MONETARY POLICY AND UNCERTAINTY IN AN ECONOMY WITH INCOMPLETE ASSET MARKETS AND NOMINAL SECURITIES

Pablo Andrés Neumeyer
University of Southern California

This essay analyzes the effects that uncertainty about future monetary policy has on the allocation of resources in an economy with incomplete asset markets, where nominal and real securities can be traded. When asset markets are incomplete and some securities have payoffs specified in terms of units of money, the value of unit of account matters because it leads to changes in the subspace of income transfers across states of nature achievable through trade in financial markets.

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EXCHANGE RATE AND TERM STRUCTURE DYNAMICS AND THE PRICING OF DERIVATIVE SECURITIES

Lars Tyge Nielsen* and Jesús Saá-Requejo
INSEAD

We develop a two-country version of the CIR (1985) model. It involves a two-factor term structure of interest rates in each country. The two state variables, which are the same for both countries, are the instantaneous interest rate in the two countries. The two term structures are correlated and interdependent through an explicit dependence of the yields of bonds issued in one country on the interest rate in the other country. We also obtain the endogenous stochastic process followed by the exchange rate. Unlike the CIR model, ours does not imply that the instantaneous returns on bonds of all maturities are perfectly correlated. We present a partial differential equation for valuing exchange-rate and interest-rate sensitive contingent claims, and we derive *closed-form* expressions for discount bonds, forward exchange rates and futures exchanges rates. We can compute stochastic duration measures for securities and portfolios; they measure the sensitivity of the portfolio's value price with respect to changes in the interest rates. Thus, the model provides an integrated framework for pricing and risk management for portfolios of exchange rate contingent securities and of bonds and bond derivaties denominated in more than one currency.

GENDER WAGE DIFFERENTIALS IN CHILE, 1958-1990

Ricardo D. Paredes-Molina* and Luis A. Riveros C.
University of Chile

This paper estimates the time trend gender wage differentials by using statistical techniques to correct for selectivity bias. The estimated corrected wage differentials are decomposed in the traditional *endowment* and *discrimination* effects. The paper estimates *potential* gender discrimination, measured through earning functions corrected by selectivity bias, on Chile in the period 1958-1990. The paper addresses the study of the time trend of the "potential" gender discrimination, arguing that wage differentials respond to the economic cycle. This argument implies that anti-discriminatory policies are important as a complement for macroeconomic policy.

A TALE OF TWO SECTORS: THE FORMAL AND INFORMAL SECTORS IN INDIA

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International Monetary Fund

Pradeep Srivastava
Harvard University

This paper presents and aggregative analysis of the informal sector in India. The hitherto ignored informal sector in developing societies is increasingly acquiring a central role in new thinking about development strategies. The study seeks to investigate the underlying data generating processes in terms of common stochastic trends using a macroeconometric framework based on real business cycle theory. Under appropriate assumptions regarding aggregation, the paper analyses the behavior of the formal and informal sectors in India in terms of their intrinsic conditional distribution properties as well as the relationships of their data generating mechanisms with respect to each other and several government related policy variables. In addition to highlighting the distinctively different characteristics of the informal sector, the results obtained have important policy implications for developing economies. The results also raise serious questions about abstracting from institutional aspects of development.

INSTABILITY IN THE LABOR MARKET
FOR RESEARCHERS

J. David Pérez-Castrillo
Universidad Autónoma de Barcelona

Research work is a team effort, and R&D is an activity with many of the features of a zero-sum game. This paper shows that these characteristics make that the labor market for researchers be unstable in the sense that firms will have an incentive to change continuously the composition of their research teams. It is easier to get stable solutions if there are large differences between firms concerning their valuation of different patents, if certain partitions of the set of researchers into teams are much more efficient that others, or it the number of competitors is large. On the other hand, flexibility in the number of researchers making for an efficient team, absence of hiring restrictions, or the existence of a large number of researchers are all circumstances that do not contribute to stability.

CO-INTEGRATION TESTS ON THE PURCHASING POWER PARITY: AN APPLICATION TO THE PERUVIAN ECONOMY DATA

Juan V. Pizarro Rios
Institut Universitaire de Hautes Etudes Internationales

The objective of this paper is to determine whether to long-term purchasing power parity hypothesis, which is fundamental in the models of exchange rate determination, is verified for the Peruvian economy in the period 1976:1-1987:6.

The paper is divided into three sections. The first section presents the absolute and relative versions of the purchasing power parity theory, their testable formulations and a brief survey of the Peruvian economy. The second section presents the co-integration notion, some link representations, and a brief characterization of the co-integration tests. In the third section, the results of the co-integration tests are presented and interpreted. The two versions of purchasing power parity are tested, a direct test is applied and a complementary analysis that includes the error correction model analysis is realized.

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SOBRE LA REPRESENTABILIDAD NUMÉRICA DE PREFERENCIAS ACÍCLICAS

Leobardo Plata Pérez
Universidad Autónoma de Barcelona

La existencia de función de utilidad para representar una preferencia implica que esta sea un preorden completo. Ello induce la transitividad de la indiferencia y la comparabilidad de cualquier par de alternativas. Estas propiedades han sido criticadas en la literatura desde hace largo tiempo. Se han considerado diversos debilitamientos (semiórdenes, órdenes-intervalo, preferencias casitransitivas y órdenes parciales) y sus respectivas representaciones numéricas. Exigir simplemente la aciclicidad de las preferencias constituye una condición más débil que permite incluir en un mismo esquema a todos los casos anteriores. La importancia de la aciclicidad radica en que es una condición necesaria y suficiente para la decisividad en el caso finito. En este caso,la aciclicidad de las preferencias equivale a la solubilidad del problema de búsqueda de maximales sobre un subconjunto de alternativas.

En este trabajo estudiamos la representabilidad numérica de preferencias acíclicas. Hacemos una revisión y modificación del concepto de correspondencia de utilidad introducido por Herrero y Subiza (1991) para representar preferencias acíclicas sobre conjuntos contables. La modificación introducida nos permite distinguir entre la indiferencia y la no comparabilidad, conceptos considerados como sinónomos en el esquema Herrero-Subiza. Las propiedades de invarianza de la representación numérica son también analizadas. Distinguimos entre las nociones de invarianza-representación e invarianza-optimización. Probamos que ambas nociones son equivalentes en el caso de preórdenes completos pero distintas en la representación mediante correspondencias de utilidad.

SCHOOLING AND COHORT SIZE EFFECTS: AN EQUILIBRIUM APPROACH

Ricardo Rainieri
University of Minnesota

I present a simple overlaping generation model that the stress the relation between the changes in the birth rate and the changes in the employment and the wage structure by age and schooling. The model is one where the agents choose their education. I compute the unique competitive equilibria, and present a related social planned problem that solves the competitive equilibria. The only uncertainty in the model is with respect to future cohort sizes. Comparative static analysis and time series exercises gives a positive correlation between the fraction within a cohort who gets higher education and the cohort size.

TRADE UNIONS AND PROTECTIONISM

Martín Rama
Centro de Investigaciones Económicas

Protection may be a second-best policy when the domestic sector is imperfectly competitive. However, the optimal tariff depends on labor market institutions too. This paper considers two settings. In *Scandinavia*, there is a centralized wage bargaining and the central trade union cares about profits; in *Latin America*, the negotiation is decentralized and unions care only about wages. It is shown that Scandinavia reaches the first best under free trade, whereas in Latin America the optimal tariff is higher, and the welfare level lower, than in the competitive labor market setting. This sheds some light on the political economy of trade liberalization.

INDEXACIÓN DE ACTIVOS FINANCIEROS Y AHORRO PRIVADO: LA EXPERIENCIA URUGUAYA

Martín Rama
Centro de Investigaciones Económicas

Alvaro Forteza*
Universidad de la República de Uruguay

Este documento explora la hipótesis, muchas veces enunciada, según la cual una mejor protección del valor de los activos financieros frente a la inflación podría estimular el ahorro privado. Se muestra que ni la teoría ni la experiencia comparada aportan elementos de juicio definitivos al respecto. Se analiza entonces el caso uruguayo, cuyo interés deriva de su larga experiencia inflacionaria y del uso temprano de instrumentos de indexación financiera. El trabajo empírico incluye la estimación de un portafolios de riqueza del sector privado que incorpora, además de los activos financieros usualmente considerados, la propiedad de vivienda y la propiedad de empresas. Los resultados obtenidos generan escepticismo respecto a la validez de la hipótesis en el Uruguay. Las colocaciones en dólares, que constituyen los activos indexados más importantes en el portafolios de los uruguayos, tienen una alta variabilidad de sus rendimientos y un alto componente de riesgo no diversificable. Sin embargo, la adopción de un marco legal favorable a la dolarización, en 1976, parece haber tenido un impacto favorable sobre el nivel de ahorro privado. Esto conduce a pensar que la *buena* o *mala* indexación no es de por sí un elemento clave en las decisiones patrimoniales de las familias uruguayas. Una hipótesis alternativa consiste en que los dólares se constituyeron en una opción más atractiva que la moneda nacional, por no encontrarse sometidos al riesgo de confiscación inflacionaria por parte del gobierno.

PRIVATIZACIÓN DE EMPRESAS PÚBLICAS

Federico Ramírez
Petróleos Mexicanos

En los últimos años han surgido inumerables controversias acerca de la privatización de empresas públicas en todo el mundo. Esto se ha debido a la ola de privatizaciones que se dieron primero en Europa, particularmente en Gran Bretaña. Esto a su vez generó una gran cantidad de literatura que buscaba la racionalidad económica de estas medidas y que, finalmente, contribuyó a formar lo que podríamos llamar la teoría de la privatización. En este trabajo se analizan los argumentos a favor y en contra de esta política, así como un esquema en el que podemos evaluar estas críticas. Se ejemplifica lo anterior con una de las privatizaciones más importantes en México: la venta de TELMEX.

IDENTIFICATION AND ESTIMATION OF NONINVERTIBLE NONGAUSSIAN MA(Q) PROCESSES

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New York University

Alvaro Montenegro*
Universidad de los Andes

Traditional estimation procedures, such as OLS or Box and Jenkins ARIMA modelling, which are based on second order properties, are incapable of distinguishing among autocorrelation equivalent MA model specifications; this ambiguity is usually resolved by imposing the restriction of invertibility. This paper presents an estimation procedure based on higher order moments which is capable of distinguish between these alternative specifications without recourse to the invertibility assumption. The true sequence of innovations that drives the MA process can be estimated once the correct model is determined. Also discussed, is the finding that the application of OLS to noninvertible MA process may generate residuals with an ARCH structure. Monte Carlo simulations are run to asses the statistical properties of the estimator. Some evidence of noninvertibility is presented for the prime rate and expenditure for new plant and equipment series.

COMMERCIAL AND TAX REFORM IN COSTA RICA

Pedro Raventos
INCAE

This paper seeks to establish an empirical framework to illuminate the discussion of two recent policy debates in Costa Rica in the area of commercial-cum-tax reform: 1) the shape of the first tariff liberalization and accompanying fiscal measures in 1985, and 2) the appropriate way to raise revenue to correct a fiscal deficit at minimum welfare cost and in a way coherent with the program of structural adjustment.

The present study begins with an count of the historical evolution of the debate on tariff and fiscal reform in Costa Rica in the late 70s and early 80s. It discusses the different opinions held about the policy measures at the time and then proceeds to simulate a general equilibrium model to obtain quantitative evidence to elucidate of the question.

INTERTEMPORAL CONSUMPTION SUBSTITUTION AND INFLATION STABILIZATION: AN EMPIRICAL INVESTIGATION

Carmen M. Reinhart* and Carlos E. Végh

International Monetary Found

A number of models that analyze the response of consumers to shocks associated with stabilization program (changes in nominal and real interest rates, fluctuations in real exchange rates, etc.) assign a key role to the parameters that characterize consumer preference. In particular, these models generally assume that households engage in intertemporal consumption smoothing, and as such, that the elasticity of intertemporal substitution is greater than zero. However, little empirical evidence exists that quantifies the magnitude and importance of this parameter, especially for developing countries. This paper estimates a simple model for six developing countries and presents estimates of the elasticity of intertemporal substitution as well as the parameters of the demand for money. The estimates are use to gauge how well the model predicts consumption during various stabilization episodes.

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AN ECONOMETRIC MODEL OF AMAZON DEFORESTATION

Eustaquio J. Reis* and Rolando M. Guzmán
IPEA

Data at district level are used to estimate and simulate an economic model of the Amazon deforestation and its contribution to the greenhouse effect. The core of the model is a relation giving the density of cleared land as a function of the levels of major economic activities and population.

A relevant feature of the estimation is to take account of the problem of spatial autocorrelation in the original variables and in the residuals of the principal regressions. The essence of this problem is the occurrence of a phenomenon in a district makes its occurrence in neighboring districts more or less likely, rendering blazed of inefficient the usual parameter estimates. In this regard, the hypothesis of the presence of spatial autocorrelation in the data is tested through the classical Moran and Geary Statistics. Since the hypothesis can not be rejected, an iterative estimator, scheme is implemented. Finally, the estimated model is used the obtain the probable trajectory of the Amazon deforestation level and to determine carbon dioxide emissions caused by it.

DETERMINANTES DEL TIPO DE CAMBIO REAL: EVIDENCIAS PARA EL CASO DE CHILE

Andrea Repetto L.
CIEPLAN

El artículo tiene por objetivo presentar evidencias sobre el comportamiento del tipo de cambio real en Chile. Se testea, mediante diversas técnicas de series de tiempo (función de autocorrelación, testeo de la presencia de raíces unitarias en la serie de tipo de cambio real y cointegración), la validez de la teoría de la paridad del poder de compra en la determinación del tipo de cambio real. Se demuestra que esta proposición es incapaz de explicar los movimientos que el precio relativo de transables a no transables ha mostrado en el tiempo por lo cual, se desarrolla un modelo teórico de maximización en dos períodos, similar al presentado por Edwards (1989).

A partir de este modelo teórico, se implementa el análisis econométrico, utilizando información trimestral (1979:1-1990:4) y anual (1960-1990). Se obtiene que tanto variables reales como nominales influyen en la determinación del tipo de cambio real. Es decir, términos de intercambio, grado de apertura comercial, flujos internacionales de capital, composición del gasto público, inversión y políticas cambiaria, fiscal y monetaria, estarían explicando el comportamiento del tipo de cambio real en Chile.

FUNCIONES DE PRODUCCIÓN A PARTIR DE UNA ECUACIÓN DIFERENCIAL: APLICACIÓN A LA ESTRUCTURA PRODUCTIVA SECTORIAL DE MÉXICO

Pedro Reyes Ortega
Centro de Investigación y Docencia Económicas

El presente ensayo se centra en dos objetivos, uno de índole teórico y el otro empírico. El primero es generar funciones de producción a partir de una ecuación estocástica no lineal; el segundo objetivo consiste en aplicar el desarrollo anterior a las ramas económicas de la economía mexicana con el fin de estimar las funciones de producción de esas ramas y analizar si ha habido cambios en los tipos de funciones y consecuentemente, en las elasticidades de sustitución entre factores o en sus parámetros.

SHORT-RUN AND LONG-RUN EFFECTS OF DEVALUATION IN A MACROMODEL OF IMPERFECT COMPETITION

Roberto Rivera Campos
University of Warwik
Universidad Centramericana

A Hartian model of imperfect competition, extended to an open economy where domestic and foreign firms compete, has been constructed within an overlaping - generations framework. It is shown that the effects of devaluation on the economic activity are closely linked to the technology used by the firms. As unemployment equilibrium exists and in the short-run money is non-neutral and devaluation is contractionary. In the long run devaluation passes-through completely to the domestic price and the output returns to its long-run equilibrium with unemployment.

DO THE RETURNS TO SCHOOLING VARY ACROSS INDUSTRIES? EVIDENCE FROM SAO PAULO, BRAZIL MANUFACTURING

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Harvard Institute for International Development

Mari Minowa
Cornell University

While previous work on Brazilian income distribution emphasized demand explanations for the rate of return to schooling, little work has focused on variation in the return to schooling over industries. We find large variation in the return of schooling across industries, 1977 Sao Paulo, Brazil. These returns are positively correlated with interindustry wage differentials, suggesting that non-competitive wage premia are proportionately larger for more educated workers, and non-competitive firms raise the average return to schooling. Industries with high rates of return to schooling tend to be multinational, use advanced technology, and have higher effective rates of protection.

EFEITOS DINÁMICOS DOS CHOQUES DE OFERTA E DEMANDA AGREGADA SOBRE O NIVEL DE ATIVIDADE ECONOMICA DO BRASIL

Elcyon Caiado Rocha Lima*
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Hélio S. Migon e Hedibert Freitas Lopes
Instituto de Matemática da UFRJ

A central controversial result of some current research on real business cycles is the claim that the cumulative effect of permanent shocks to supply underlies the bulk of economic fluctuations.

This paper uses a bayesian version of the methodology developed by Blanchard and Quah (1989) to investigate if business cycles in Brazil can be interpreted as mainly the result of permanent shocks to supply. We, like Blanchard and Quah, interpret fluctuations in GNP and unemployment in Brazil as due to two types of disturbances: disturbances that have permanent effect on output and disturbances that do not. The first is interpreted as supply disturbances, and the second as demand disturbances.

Using quarterly data from 82:3 to 90:1 our results are: the estimates of the supply shocks support the view that a substantial fraction of output fluctuations in Brazil is caused by supply shocks but there is also evidence that demand shocks are important to explain fluctuations of unemployment.

THE VACANCY RATE IN COMPETITIVE MARKETS

Alvaro Rodríguez
University of Miami

This paper analyses the vacancy rate in competitive markets. It is shown the the competitive vacancy rate is not in general optimal and that it can be higher or lower that the optimal rate.

ACTIVIDAD ECONÓMICA Y ACTIVIDAD TECNOLÓGICA: UN ANÁLISIS SIMULTÁNEO DE DATOS DE PANEL

Luis Rodríguez Romero
Universidad Carlos III de Madrid

El objetivo de este trabajo es doble. Por una parte, se presenta un esquema para el análisis empírico entre actividad económica y actividad tecnológica, caracterizado por considerar ambos aspectos como variables endógenas de un sistema simultáneo. Por otra parte, dicho marco analítico se aplica a la economía española, obteniendo estimadores del efecto del capital tecnológico en la actividad económica y el efecto de esta última en los recursos destinados a la generación de tecnología.

FISCAL AND STABILIZATION POLICY IN A
REAL BUSINESS CYCLE MODEL

Germán Rojas
Universitat Pompeu Fabra

In this paper we solve numerically a real business cycle model with distorting taxes. The model is calibrated in order to represent the salient features for the U.S. economy (standard deviations, correlation with output and some stylized facts for the tax rate on income from capital and labor). We evaluate different tax polices. First, we consider some modifications in the model in order to compute the implications of moving to the optimal fiscal system (see chari, Christiano and Kehoe (1991). Next, we consider a government that has the possibility of stabilizing the economy (i.e. eliminate the cycles) with different policies; we compute the welfare gains (or losses) of such policies when the government has to finance these stabilization policies with distorting taxation. Our result suggest that, even in a tax-distorted economy, stabilization policies have a very small effect on welfare relative to the experiment of moving to the optimal fiscal system.

TRADE LIBERALIZATION AND BOOM ON
IMPORTS OF CONSUMER GOODS:
THE CASES OF CHILE, KOREA AND MEXICO

Patricio Rojas R.
Central Bank of Chile

The purpose of this paper is twofold. First, to examine in the case of Chile, Mexico and Korea it the stochastic process of imports on consumer goods change occuers, as a consequence of the liberalization reform. Second, to analyze if this change is associated with speculative factors about the feature sustainability of the program, or if it is associated more with factors like a people's perception of a permanent increase in their wealth as a consequence of the reduction of tariffs.

CURRENCY SUBSTITUTION AND INFLATION IN PERU

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International Monetary Fund

This paper deals with dollarization and its role in the dynamics of inflation in Peru during the period January 1978-December 1990.

Using an error-correction model technique, it is shown that there is a long-run relationship between the expected rate of depreciation in the black market exchange rate and the ratio of domestic money to an indicator of holdings of U.S. dollars; that is, the hypothesis of currency substitution can explain the behavior of real holdings of money in Peru.

The paper also shows that the importance of currency substitution as a transmission mechanism through which domestic fiscal and monetary policies affected the short-run behavior of inflation varied during the period under study. In fact, the estimation of a dynamic equation for inflation suggests that while the importance of such mechanism was relatively small during the period of high but relatively stable inflation (January 1978-1985), currency substitution became an important factor in the inflation process during the recent period of hyperinflation experienced in the Peruvian economy. The paper then highlights the policy implications derived from the empirical results.

TRADE POLICY, INSTABILITY AND GROWTH:
THE CASE OF URUGUAY

Jorge E. Roldós
CERES

In this paper we look at the performance of the Uruguayan economy in terms of trade and growth, following some of the insights of the new endogenous growth theories. Contrary to open economy versions of the Solow model, somo of these theories suggest that trade liberalization should cause more growth -and not viceversa-. We forformed Granger causality test between exports and output growth -both for annual and quarterly series. and didn't find any evidence of temporal causality either way. The correlation between both variables may be due to cyclical rather than trend factors. This casts doubts on the merits of the Uruguayan export-promotion policies.

The evidence we found on sclae economies at the aggregate level was mixed. We also found amore diversified -rather thàn specialized- industrial sector, and this may be suggesting a reduction of the growth potentiaal as less specialization slows down learning by doing. An analysis of Solow Residuals, yielded the result that they are correlated with exports but not with capital per worker, confirming the potential of a neaclassical model with *export externalities*.

We also show that those sectors that export to the rest of the world -i.e., outside the region- have had higher growth rates with less export income instability. Hence, to the static distortionary effect of uruguay's export-promotion strategy, we would have to add a negative instability effect on GDP growth.

RESTRICCIONES AL CRECIMIENTO: APLICACIÓN DE UN MODELO DE BRECHAS A LA ECONOMÍA CHILENA

Pilar Romaguera* y Dante Contreras
CIEPLAN

En países del Tercer Mundo, y en especial en América Latina, ha sido frecuente la visión de que la tasa de crecimiento de estas economías ha estado limitáda por la capacidad de generar ahorro y por la disponibilidad de divisas. Esta visión, de países que enfrentan restricciones al crecimiento económico, ha sido frecuentemente esquematizada en el análisis macroeconómico utilizando modelos de brechas.

El objetivo de nuestra investigación es analizar las restricciones al crecimiento que enfrenta la economía chilena y evaluar como estas restricciones se ven modificadas por cambios en el precio del cobre: el principal producto de exportación de Chile. Para ello desarrollamos un modelo de tres brechas y realizamos estimaciones empíricas para el período 1974-1990. Estas estimaciones nos permiten evaluar cuales han sido las restricciones imperantes que han actuado como freno al crecimiento de esta economía.

El modelo es presentado en etapas sucesivas, con un grado de compleji-dad creciente. Solo en la última de estas etapas se simulan los efectos de cambios en las variables exógenas, como es el cambio del precio del cobre. Adicionalmente hemos estimado el conjunto de funciones endógenas a través de métodos econométricos. Si bien creemos que aún hay mucho que avanzar en las estimaciones empíricas de los modelos de brechas: creemos que esta investigación constituye un aporte en este sentido.

PRONÓSTICOS CON RESTRICCIONES USANDO TÉCNICAS DE SUAVIZAMIENTO EXPONENCIAL

Lorena Rosas M.* y Víctor M. Guerrero
Instituto Tecnológico Autónomo de México

Se presenta aquí una metodología que permite obtener pronósticos óptimos (con Error Cuadrático Medio Mínimo) cuando se cuenta, no sólo con la información histórica de la serie, sino con información adicional, provista en forma de restricciones lineales sobre los valores futuros de la serie. Tales restricciones ocurren cuando: 1) se cuenta con juicios expertos en el tema, 2) se desea combinar pronósticos obtenidos con métodos alternativos o 3) se necesita construir un escenario de trayectoria futura para la variable. El uso de la información adicional, mejora tanto la exactitud como la precisión del pronóstico obtenido por algún método de Suavizamiento Exponencial (S.E.). Adicionalmente, se dan expresiones cerradas de los pronósticos sujetos a restricciones, considerando las restricciones y los métodos de S.E. más empleados en la práctica y se hace especial énfasis en la utilidad potencial de la metodología propuesta en situaciones reales.

MODELING THE DEMAND FOR MONEY IN BRAZIL

José W. Rossi

IPEA and UFRJ

In this study we estimate money demand functions for Brazil using quarterly data starting in 1966. First a Goldfeld-type specification is adopted for modeling its long-run equilibrium (namely, real money balances are a function of real GDP, nominal interest rate and inflation rate), which is tested by Engle and Granger (1987) co-integration technique. Then an Error Correction Model is used for the short-run dynamics of the function.

ORDENAMIENTO Y DIFERENCIACIÓN SALARIAL EN LA INDUSTRIA DEL URUGUAY: UN ESTUDIO A NIVEL DE PLANTAS INDUSTRIALES

Máximo Rossi* y Rubén Tansini
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En este trabajo se evalúan los determinantes de las diferencias de los salarios medios por hora pagados por los distintos establecimientos de la industria manufacturera y la estabilidad de la estructura salarial de las ramas industriales en el período 1983-1987.

Los resultados indican que el ordenamiento de la estructura de salarios por hora es muy estable a nivel de ramas industriales a cuatro dígitos, a pesar de las importantes transformaciones institucionales producto de la restauración democrática a partir de 1985. La información proveniente de una muestra del sector manufacturero a nivel de establecimiento indica la reducción del coeficiente de variación en el tramo de establecimientos de mayor tamaño, lo que podría ser producto de las incidencia de los sindicatos.

La evaluación de la informacioón sobre la muestra de establecimientos industriales señala que áquellos de mayor tamaño, orientados al mercado interno, intensivos en capital, y con alta participación de obreros en tareas no productivas de bienes serían pagadores de salarios promedios más elevados. En el caso de los establecimientos de mayor tamaño los niveles salariales promedio más elevados se encontrarían también en áquellos dirigidos al mercado interno, cuyos obreros presenten mayor nivel de capital humano, y sean intensivos en capital. En el caso de los establecimientos de menor tamaño los pagadores de salarios promedios más elevados serían importadores de insumos y con alta productividad por hora trabajada. Por último, para los establecimientos localizados en Montevideo, se encontró que áquellos con mayor nivel salarial promedio tendrán más claramente un perfil orientado al mercado interno, serán intensivos en capital y con menor participación de obreros en tareas productivas de bienes.

STABLE OUTCOMES IN DISCRETE AND CONTINUOS MODELS OF TWO-SIDED MATCHING: A UNIFIED TRATMENT

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The purpose of the present paper is to present a unified tratment of a class of two-sided matching models that includes the discrete model (the marriage model of Gale and Shapley) and the continuous models (the assignment game of Shapley and Shubik and the general model of Demange and Gale), such that the parallel conclusions for the two sets of models are derived in the same way from the same assumptions. We show that the results in question all follow from the assumption that the core coincides with the core defined by weak domination. In the marriage model, the assumption of strict preferences causes the two sets to coincide, while in the continuous models the two sets coincide because agents have continuous preferences and prices can be adjusted continuously.

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ADVANCES IN INTEGRATION TESTS:
THE PPP HYPOTHESIS IN THE SPANISH CASE

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This study tries to test the purchasing power parity hypothesis (PPP) for the spanish case. The study uses data on relative prices and spot exchange rates for the Peseta against the Dollar and the German Maek, and for comparative purposes, the exchange rate German Mark/Dollar, since January 1977 until November 1991. Firstly, the paper, following previous investigations of the authors, tries to identify the shocks that could affect the temporal behavior of the exchange rate.

As Perron (1989) shows, these shocks can modify the outcomes of the unit roots tests, forcing to use propers ones. Furthermore, the use of monthly series demands to analyze the possibility of seasonal integration. So, the study uses a simulation based on the work of Hylleberg, Engle, Oranger and Yoo (1990).

In a second step, the paper tries to show the empirical rejection of long-run purchasing parity in the spanish case. Finally, the study pretends to determine the factors that contribute to the rejection, discriminating between real and nominal shocks on the exchange rate.

LA DEMANDA POR VIVIENDA EN SANTIAGO:
UN MODELO DE DECISIONES DISCRETAS

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En este trabajo se estima un modelo econométrico de la demanda por vivienda en algunas comunas de la Región Metropolitana utilizando un enfoque de decisiones discretas. En él, las familias eligen en forma simultánea el modo de tenencia (comprar o arrendar) y el tamaño de la vivienda. La estimación se realiza utilizando una especificación logit multinomial anidado. La base de datos proviene de la Encuesta CASEN de 1987, de donde se extrajo una muestra de familias residentes en algunas comunas seleccionadas.

El modelo logit anidado estimado se especificó en dos niveles. En el primero, la familia decide la compra o arriendo de la vivienda en función de una variable de ingreso y una variable que pretende medir acceso al crédito. Para la variable ingreso que estimó una función de ingreso permanente para cada una de las familias en función de variables de tipo socio-económico como edad de los cónyuges, nivel de educación, experiencia laboral y patrimonio. Asimismo, se construyó un índice de acceso al crédito de las familias considerando factores como la presencia de ahorros en la familia, el tipo de trabajo de los cónyuges y el nivel de riqueza de las familias.

En el segundo nivel, la familia decide entre tres tamaños de vivienda –pequeña, mediana y grande –, dado el modo de tenencia elegido en el primer nivel. La elección se realiza en función del monto de arriendo imputado y el número de personas que componen el hogar. El monto de arriendo imputado, tanto para las viviendas arrendadas como propias, se construyó a partir de regresiones hedónicas para evitar posibles distorsiones en la declaración de los montos de arriendo en viviendas propias. Para ello se utilizaron las características inherentes a la vivienda y a su lugar de ubicación.

RATIONAL SPECULATIVE BUBBLES

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University of Chicago

This paper is concerned with the conditions under which asset prices in an intertemporal competitive equilibrium are equal to the present value of the streams of future dividends to which each assets represents a claim. According to a central result of the theory of finance, this is always true in the case of finite-horizon economies, as long as there are no restrictions upon transactions other than that associated with possible incompleteness of the set of securities that are traded. (The result is sometimes called *the fundamental theorem of asset pricing*). Here we consider the extent to which a result continues to be valid in the case of trading an infinite horizon. Our framework for analysis is an intertemporal general equilibrium model involving spot markets for goods and securities at each of a countable infinite sequence of dates.

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THE POLITICAL ECONOMY OF STRUCTURAL ADJUSTMENT: ON THE ROLE OF DONOR AGENCIES

Claudio A. Sapelli
The World Bank

Lately, several countries have attempted to stabilize and liberalize their economies (i.e. to establish a structural adjustment program -SAP), only to abandon the effort some months later. Argentina (until recently) and Brazil are the most notorious cases. Given that adopting such a program implies intellectual and political efforts that are lost when the program is dropped, why would a country start a SAP and then stop implementing it? The paper uses a model of utility maximizing governments to explain when and why they will adopt a SAP and consequently when and why they would discontinue it. Working with a rent-seeking government, the model shows that compliance with a SAP is endogenous. The key issue is to study what factors can permanently alter the equilibrium rent-extracting rate.

MACROECONOMIC RESPONSE TO POLICY AND EXTERNAL SHOCKS IN AN OPEN ECONOMY

Klaus Schmidt-Hebbel, Luis Serven and Gilfy Zoega
The World Bank

The transmission of shocks and policy changes depends crucially on the structure o f the economy. This paper analyzes the impact of external shocks and policy shifts in the frame work of an open-economy dynamic racional expectations model. The model combines Keynesian features (Phillips-curve wage adjustment liquidity constraints) a neoclassical elements (forward-looking behavior in assets, goods and factor markets), nesting the two extreme Keynesian and neoclassical versions as special cases.

WELFARE CONSIDERATIONS IN THE PROVISION OF PUBLIC SERVICES: EDUCATIONAL EXPENDITURES AND OUTCOMES IN MEXICO

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University of Pennsylvania

This paper presents an attempt to explain how a central government allocates resources to states in the education sector. In particular, we analyze two criteria often considered relevant in the decision-making process: the equity-efficiency trade-off and unequal concern with respect to the characteristics of the sub-national jurisdictions to which the central government allocates resources. We fit our study into the context of a developing economy and perform empirical tests on state-level Mexican educational expenditure by the federal government. A two-sector model is considered in a welfare maximizing context which allows for a theoretical as well as econometric solution for jointly determined educational expenditure and production. The addition of a roads sector provides for an instrument for endogenously determined expenditure in schooling production. We find that the Mexican federal government trades off some efficiency for gains in equity, but in doing so treats states differently.

A GENERAL MODEL WITH ASYMMETRIC INFORMATION WITHOUT IRRATIONAL AGENTS

Luis Guilherme Schymura de Oliveira
Getulio Vargas Foundation

This paper presents a fairly general model of negotiation of assets in a market where information is asymmetric in which the existence of equilibrium with negotiation requires some degree of irrationality, i.e., the only rationalizable equilibrium (Bernheim, 1984 and Pearce, 1984) is the non-negotiation. Finally, considering a slightly weaker concept of rationality one can show that an equilibrium with negotiation exists.

ENVIRONMENTAL LEGISLATION AND ENFORCEMENT: A VOTING MODEL UNDER ASYMMETRIC INFORMATION

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Marco E. Terrones*
GRADE

This paper examines the effects of asymmetric voter information on the environmental policies of democratic governments. The model builds on the electoral signalling model of Rogoff (1990) to illustrate the possibility that democratic governments may systematically over-legislate -and yet under-enforce- environmental standards in a rational expectations equilibrium. The model also offers insights into the welfare implications of *right to know* legislation, proposals to de-politicize environmental policy, and private non-profit environmental organizations.

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PERDAS E SERVIÇOS AMBIENTAIS DO
RECURSO AGUA PARA USO DOMÉSTICO

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IPEA

Este estudio procura estimar los servicios y las pérdidas ambientales derivados del uso del recurso agua por parte de las familias brasileñas en el período 1970-1990. Estas estimativas son utilizadas para ajustar los valores del *consumo final de las familias* reportados convencionalmente en el concepto de renta sostenida y ofrecer una base más realista para las políticas de saneamiento básico.

En lo que respecta a las pérdidas ambientales, el estudio se limita a evaluar las pérdidas asociadas con los riesgos a la salud humana. El método adoptado para estimar los costos en términos de salud considera que los mismos consisten en: *a)* la producción perdida por causa de la disminución del número de días de trabajo y de la muerte prematura de personas víctimas de enfermedades debido a la polución del agua generada por su uso doméstico; y *b)* la producción que sería lograda si los gastos médicos destinados al tratamiento de las enfermedades referidas fuesen utilizados par otros fines.

Para estimar los gastos médicos y la producción perdida debido a la incidencia de enfermedades relacionadas con la polución doméstica del agua, es necesario determinar previamente los índices de mortalidad y morbilidad de esas enfermedades. En este sentido, es estimada una función de *dose-response* para siete tipos de enfermedades consideradas asociadas a la polución doméstica del agua, relacionando la incidencia de esas enfermedades con variables socio-económicas y con indicadores de la calidad del agua.

INESTABILIDAD DE LA DEMANDA POR DINERO Y CAMBIO EN EXPECTATIVAS INFLACIONARIAS EN EL FIN DE LA HIPERINFLACIÓN BOLIVIANA

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A fines de 1985 fue aplicado exitosamente en Bolivia un programa de estabilización que puso fin a un proceso hiperinflacionario iniciado en abril de 1984. Tal programa, que contenía un cambio en la política económica, requirió un tiempo para su consolidación, en el cual las expectativas convergieron a las metas de política económica y se controlaron desequilibrios macroeconómicos ocasionados por shocks externos (caída del precio del estaño) y se ensayaba una estabilización fiscal.

Así, en el período comprendido entre septiembre de 1985 y mayo de 1986, los agentes económicos ajustaron sus patrones de comportamiento desde aquellos correspondientes a un régimen de hiperinflación hacia uno de inflación moderada. De esa manera, con fuentes de información heterogénea, funciones tradicionalmente estables, como la demanda por dinero, resultan inestables en períodos tan particulares como el vivido por la economía boliviana.

El trabajo busca identificar primero, el momento en el cual las expectativas convergen a la inflación meta y segundo, las fuentes de inestabilidad del parámetro de expectativa inflacionaria de la demanda por dinero. En este punto, el problema de investigación pretende diferenciar la influencia individual de la inercia inflacionaria y de la credibilidad en las medidas estabilizadoras sobre el período de consolidación del programa de estabilización.

EXCLUSION AND MORAL HAZARD

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This paper examines the problem of costly exclusion of individuals from a public good. Previous analyses of exclusion have treated it as solely a question of technologies; in our analysis exclusion depends on technology and incentives. In this paper providers of the good design a mechanism to provide optimal level of deterrence to free riders. If individuals are heterogeneous optimal deterrence may allow some free riders. We examine the effect of costs of exclusion on the Samuelson condition for optimal provision, and see that the desire to deter free riding leads to underprovision of the good if the good is nonrivalrous.

GENERAL EQUILIBRIUM ANALYSIS OF THE GAINS FROM TRADE FOR THE MEXICAN ECONOMY OF A NORTH AMERICAN FREE TRADE AGREEMENT

Horacio Sobarzo
El Colegio de México

This paper attempts to evaluate the effects that an eventual North American free trade agreement (NAFTA) between Mexico, Canada and United States would have on the Mexican economy, in the presence of economies of scale and imperfect competition in the Mexican Industry. The way of modeling economies of scale follows the lines of the Harris (1984) model for Canada and focuses in detail on the effects within the Mexican economy.

The choice for incorporating economies of scale for analyzing the Mexican economy responds, first, to the growing empirical evidence suggesting that countries with trade, and, second, to the theoretical concern as to whether Walrasian applied general equilibrium models are misspecified in that, because of the assumption of constant returns to scale, they do not capture an important source of gains from trade arising from the presence of economies of scale and imperfect competition.

The results presented in this document refer to an scenario in which all trade barriers with North America are removed. Nonetheless, the way in which the model has been specified enables us to simulate not only different degrees of removal of trade barriers but also different ways in which the Mexican economy could react, that is, different closure rules. The realism of these different reactions, however remains open to discussion.

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VARIABILIDAD DE LA INFLACIÓN EN MÉXICO, 1980-1991

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Existe la creencia generalizada de que la variabilidad de la inflación (que puede representar a la incertidumbre a la que se enfrentan los agentes) aumenta simultáneamente con el nivel de la inflación, siendo además la principal causa de las pérdidas de riqueza asociado con las latas tasas de inflación.

El objetivo del presente documento es el de evaluar empíricamente, para el caso de México, la hipótesis de una asociación positiva entre la inflación y la variabilidad del componente no anticipado de la misma, así como la estabilidad de ésta en los últimos 10 años.

Alternativamente al uso de los métodos tradicionales, que modelan la variabilidad de la inflación alrededor de un promedio móvil o de una tendencia, o simplemente suponen una varianza constante, se hace uso del modelo de heteroscedasticidad autoregresiva condicional (ARCH) introducido por Engle (1982), que se caracteriza por tener media constante, procesos seralmente no correlacionados con varianza condicional no constante, aunque varianza incondicional constante.

Con este tipo de modelos, en el que se diferencia entre estos dos tipos de Varianzas, se espera obtener mejores intervalos de confianza para el pronóstico de la inflación, por cuanto los agentes agregan información del pasado para mejorar las predicciones de la varianza.

HYPERINFLATION WITH CURRENCY SUBSTITUTION: INTRODUCING AN INDEXED CURRENCY

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This paper analyses the properties of hyperinflation equilibria in a model of currency substitution in which money is in the utility function. A liquidity costs model is used to derive a utility function in which the monetary assets are substitutes. I discuss the effects of introducing an alternate currency on a hyperinflationary equilibrium. The model predicts that the rate of growth of inflation of the original currency decreases. The predictions of the model are then tested against two historical experiences.

MONETARY TAXATION, TAX REFORM RISK AND ASSET PRICING IN A CASH-IN-ADVANCE ECONOMY

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Cash-in-advance models provide a general equilibrium framework in which theories of finance, money and international trade can be studied in a unified optimizing setup. In addition, most of the tax incidence literature is based on partial equilibrium analyses (cash-flow approach). In contrast to most of the literature on this subject, which often abstracts from money or disregards the monetary character of modern taxation schemes altogether, this paper extends the standard framework by integrating the fiscal sector. Its distinctive characteristic is that taxes have to be paid with fiat money accumulated in advance. The effect of taxes on asset pricing and velocity of money is studied when this tax payment technology is imposed. Also, tax incidence in a monetary economy is considered through the effect of tax reforms and fluctuations in uncertainty about future tax reforms on asset prices.

DOMESTIC INTERTEMPORAL BUDGET BALANCE AND INDEXED DEBT IN BRAZIL: EVIDENCE FROM 1976-1991

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This paper examines the relationship between domestically held government debt, the degree of financial indexation, inflation, and intertemporal budget balance in Brazil. An examination of the data suggests that reductions in the rate of indexation (the *correcao monetaria,* or monetary correction) gave been used in attempts to limit the growth of real government indebtedness in Brazil.

A reduction in the real rate of financial indexation (the rate of indexation minus the rate of inflation) is a form of implicit default. A highly-publicized example of such an implicit default was the Collor Plan of March, 1990. However, evidence presented in this paper suggests that the Collor Plan was qualitatively similar of the policy regime that had been in place for some time.

Of course, if the market anticipates an implicit default, nominal interest rates should rise. Thus, the long-run effectiveness of such a policy to balance the budget is limited. Nonetheless, evidence shows that, for the 1986-1991 period reductions in the real rate of indexation followed increases in government expenditures. Thus, reductions in the real rate of indexation –typically associated with anti-inflation plans– served as one instrument used by the government in attempts to balance its budget.

The analysis consists of *i)* an outline of recent fiscal policy (focussing on the Collor Plan) and the bond indexation scheme, *ii)* and examination of intertemporal budget balance (utilizing stationary tests) and *iii)* an examination (utilizing an error-correction model) of how the budget is forced into intertemporal balance through changes in expenditures, changes in taxation, and changes in the volume of monetary correction.

One traditional rationale for indexation of government bonds is reduced uncertainty for bond holders and thus lower financing requirements. Results presented here suggest, however, the indexation schemes are not a panacea in this aspect.

PUEDE PROTECCIÓN PROMOVER EXPORTACIONES DE MANUFACTURAS?: EL CASO DE COMPETENCIA PERFECTA INTERNACIONAL Y COMPETENCIA IMPERFECTA DOMÉSTICA EN PAÍSES EN DESARROLLO

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Krugman (1988) ha manifestado que los argumentos de las nuevas teorías del comercio internacional no son aplicables en países en desarrollo por el hecho que estos países son tomadores de los precios internacionales y que el tamaño de sus mercados domésticos son demasiados pequeños para explotar economías de escala. En este trabajo se presenta un modelo de exportación, producción y precios domésticos que introduce estas teorías en los modelos tradicionales de las nuevas teorías (Brander, 1981; Krugman, 1984 y Dixit 1984). El modelo asume por un lado que las firmas domésticas -que producen dos productos diferenciados, uno dirigido al mercado interno y el otro al externo- aceptan los precios internacionales en el producto dirigido al mercado externo aún cuando pueden determinar precios en el producto dirigido al mercado doméstico. De otro lado y a diferencia de los modelos de competencia imperfecta considera la posibilidad de complementariedad en los costos de producción (o *economies of scope*) en los dos productos ofrecidos por las firmas domésticas. Con estas dos características el modelo muestra entre otras cosas la posibilidad de que protección del mercado doméstico incentive las exportaciones sin que necesariamente existan economías de escala a nivel de las firmas y aún cuando éstas acepten los precios internacionales en el producto de exportación. También el modelo predice una serie de efectos que son consistentes con diversas evidencias encontradas en países en desarrollo.

THE WELFARE EFFECTS OF INFLATION: THE CONSEQUENCES OF PRICE INSTABILITY OF SEARCH MARKETS

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There is considerable disparity between popular opinion about the welfare loss due to inflation and formal estimates of this loss. This paper goes part of the way in filling that gap, by taking account of the association of higher inflation with higher relative price variability that previous studies have ignored.

I model a market for a homogeneous good, in which buyers search for low prices and sellers set prices to maximize profits, to analyze the effects of relative price variability on information acquisition, price setting, and equilibrium smaller distributions. Buyers react to instability by holding smaller information stocks, that is, by accepting higher real prices. This induces firms to increase their markups and allows inefficient firms to increase their sales. Production gets reallocated towards higher-cost producers. I show that the causality runs from inflation to market structure and performance.

Thus, the main consequences of relative price variability are higher real prices (a real income loss for consumers) and a lesser ability of the price system to screen out inefficient competitors. Combining these findings with the previously studied effects of inflation level and variability, we get a much larger welfare loss that the previous literature found.

MACROECONOMIC EFFECTS OF NON-UNIVERSAL DUAL EXCHANGE MARKET RESTRICTONS: AN OPTIMIZING APPROACH

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Dual exchange rate arrangements have been widely ised in developing countries as a mechanism to face adverse situations in the balance of payments. Its widespread use could be attributed to the presumption that through the adoption of a dual exchange rate regime the pricing and resource allocation processes might be at least partially isolated from unestable foreign currency financial transactions.

The theoretical work on this area has challenged that presumption from several perspectives. owever, on the one hand, most of the theoretical analysis of dual exchange rate regimes has been conducted through the use ofdescriptive models. Work on the functioning of dual exchange rate regimes based on optimizing models, on the other hand, has been more oriented by analytical tractability, and less by the incorporation of the features that define the operation of a dual exchange in the real world. in this note we develop a simple macroeconomic model which attempts to fill this gap. Besides being derived from explicit utility maximization by economic agents, and as such, being suitable for welfare assessments, the main feature of the model is that it determines the financial exchange rate premium taking into account portfolio balance and expectations about the future trajectory of the financial exchange rate.

TRADE LIBERALIZATION AND THE STRUCTURE OF PRODUCTION IN MEXICAN MANUFACTURING INDUSTRIES

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This paper exploits plant-level panel data from Mexico to analyze the manufacturing sector's response to the changing economic environment during the period 1984 to 1989. In particular, it examines whether adjustments in production patterns lead to exploitation of plant-level scale economies and whether productivity improvements were registered during the sample period. Also explored is whether the patterns of adjustment and changes protection are related in a manner consistent with the *new* theory of trade with imperfect competition.

Successful examination of these issues depends critically on estimation of sector-specific measures of returns to scale and productivity. Accordingly, the paper begins with a review of alternative representations of production technologies, followed by a discussion of the econometric techniques required to estimate then in the presence of unobservable plant-specific effects and measurement error. Thereafter, we present the results for the major Mexican industrial sectors and compare them with the results of other studies. Extending the work of Cornwell, Schmidt and Sickles (1990), we decompose the cost changes in the various manufacturing industries into an expansion effect, a scale effect, and technical efficiency gains. Finally, we relate the findings on technologies to changes in Mexico's trade regime.

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COOPERATION THROUGH MONITORING IN A MULTIPLE-PRINCIPALS/SINGLE-AGENT MODEL (WITH APPLICATIONS IN THE GENERAL ACCOUNTING OFFICE)

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This paper develops a model of monitoring with two principals and one agent. The asymmetry of information is of a pure moral hazard nature. The use of a monitor who receives with positive probability a costless and perfect signal on the agent's effort allows the principals to cooperate and bring to zero the rents captured by the agent when monitoring is not economically feasible. If agent is risk-neutral, monitoring is costless. If the agent is averse to risk, monitoring becomes costly. In both cases, though, cooperation among the principals, through the use of monitoring, may consist of one principal remaining silent (al least in equilibrium). This characteristic makes some delegation activities considered to have only one principal worth reexamining. We look into the behavior of the GAO, as well as its evolution over time, as a potential monitor serving both Congress (the active principal) and the President (the silent principal) in controlling the bureaucracy.

AN ECONOMETRIC DEMAND MODEL WITH NON-ORDERED PREFERENCES

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Universidad de Guadalajara

Although there is considerable theoretical work on consumer demand with non-ordered preferences, econometric modelling along these lines is conspicuosly absent. We consider demand for a finite number of commodities by a *typical consumer* whose preference relation is irreflexive and monotone along halrays and has open level sets, the upper one being convex and *accessible* from positive vectors. Apart from being sufficient for general equilibrium theory, these properties imply the continuity of the maximal correspondence and hence the existence of continuous demand functions generalizatin marshallian and hicksian demand.

An econometric model of a specific type of generalized hicksian demand for five groups of commodities is estimated using Mexican data for 1970-1988. Consumers are assumed to minimize expenditure under the condition that their choice is a consumption bundle that, loosely speaking, may be said to be weakly preferred to a *reference bundle*. One period lagged consumption is taken as the reference bundle in this exercise. The conventional statisical performance of the model is acceptable, though some basic hypotheses as the convexity of preferences seem not to be supported on the basis of available evidence.

EFICIENCIA EN LA BOLSA DE METALES: UN ANÁLISIS DE SERIES DE TIEMPO

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En términos muy generales se puede hablar de la existencia de dos grandes grupos de Bolsas de Comercio: las Bolsas de Valores y las Bolsas de Materias Primas no Perecibles; donde las primeras han sido profusamente estudiadas, dejándose un poco de lado a las segundas. El objetivo del presente trabajo es estudiar la Bolsa de Metales de Londres –que es una de las más importantes dentro de las Bolsas de Materias Primas No Perecibles– para mostrar teórica y, sobre todo, empíricamente la existencia de ineficiencia en sus mercados, principalmente a partir de las actividades especulativas que podrían realizar los productores de los metales.

OMNIBUS TESTS FOR MULTIVARIATE NORMALITY OF OBSERVATIONS AND RESIDUALS

Carlos M. Urzúa

El Colegio de México

This paper provides an omnibus test for multivariate normality derived by considering as the alternatives to the multinormal the class of *likely* distributions introduced elsewhere by the author (Urzúa, 1988). The test, being derived using the Lagrange multiplier procedure, have optimum local asymptotic power among those alternatives. Furthermore, the test, first suggested in Urzúa (1989), is identical to the Lagrange multiplier test recently derived by Mardia and Kent (1991) through a different route, and is also identical, in the univariate case, to the commonly used Bera-Jarque-Bowman-Shenton test for normality. The paper also extends the test to cover the case of residuals of simultaneous equation models. Finally, it concludes by suggesting simple transformations that can significantly improve the test in the case of small- and medium- size samples, even for the univariate case.

LIBERTAD Y OBLIGATORIEDAD EN EL NUEVO
SISTEMA PREVISIONAL CHILENO

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La industria de corretaje de seguros de rentas vitalicias previsionales en Chile es singular porque ofrece un servicio (asesoría) que es un bien de confianza, a clientes que son obligados por el estado a tomar una decisión de jubilación de grans impaacto y complejidad. Se muestra que la forma de venta utilizada, en que el corredor *independiente* recibe comisiones de las Compañías de Seguro y no del jubilado, implica un conflicto de interés que el jubilado inexperto no puede manejar. Los problemas son multiplicados por el hecho de que el servicio de corretaje cuenta con el privilegio de ser financiable –sin límite– con los fondos de retiro, lo que induce al jubilado miope a no disputar su precio.

El trabajo ofrece un modelo microeconómico de este mercado, que investioga cuál es el resuultado de que una fracción de los jubilados entregue su confianza ciegamente a algún corredor. Se muestra que el resultado es que el equilibrio de mercado en el largo plazo está indeterminado, porque la demanda está indeterminada, lo que ímplica una tendencia hacia comisiones muy altas.

Finalmente se proponen modificaciones a la regulación estatal vigente que permitirían un fuerte mejoramiento de desempeño de la industria de corretaje. Se propone crear un servicio básico de asesoría para los que no manifiesten una asesoria independiente. Este servicio básico se asignaría en un remate. El otro elemento central de esta propuesta es limitar el uso de fondos de retiro para el pago de asosorías, lo que a su vez requiere la prohibición del pago directo por parte de las Compañias de Seguros de Vida y AFP a corredores independientes. También se sugiere, para contrarrestar la miopía del jubilado, que la comisión pagada con fondôs de retiro se descuente de las pensiones a recibir en el primer año de jubilación.

COMPETITION AND CULTURE IN AN EVOLUTIONARY PROCESS OF EQUILIBRIUM SELECTION: A SIMPLE EXAMPLE

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Competition tends to promote efficient (equilibrium) behavior through the higher survival of the organizations (say firms) that adopt it. On the other hand, culture (understood as the *inherited* social pattern of behavior) may induce certain short-run inertials. This paper analyses a dynamic model of the struggle between these two forces in the evolution of alternative stable configurations of social behavior.

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LAS VARIABLES QUE EXPLICAN EL DESEMPEÑO ECONÓMICO EN EL CAMPO MEXICANO: ENCUESTA NACIONAL DE PRODUCTIVIDAD

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Esta investigación busca conocer cómo influye el marco institucional agrario mexicano en la productividad de la tierra. Se comienza haciendo una breve descripción del sector agropecuario, revisándose los planteamientos de diversos sectores sociales sobre su modernización. Se analiza si efectivamente los cambios institucionales aumentarían la productividad en el campo a través de dos vías: 1) estudiando la experiencia internacional y 2) analizando la información captada en la Encuesta Nacional de Productividad Agropecuaria levantada en agosto de 1990.

De ambos análisis se concluye que para elevar la productividad de la tierra en México son necesarios dos tipos de medidas. Las primeras de ellas deberán estar encaminadas a crear un marco institucional favorable que reduzca los costos de transacción que impiden un desempeño ágil y oportuno de los agentes económicos en el campo. Las segundas deberán propiciar las condiciones de infraestructura física e institucional que aseguren que las nuevas oportunidades sean plenamente aprovechadas. Esto hace necesario una reforma del marco legal y un programa que incentive la inversión pública y privada en el campo.

THE ECONOMICS OF MANDATORY BENEFIT PROGRAMS

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The purpose of this paper is to investigate formally the main economic consequences, advantages and disadvantages of mandatory benefit programs. Mandatory benefit programs are defined as those programs where the government either mandates the employee to purchase a given mount of a good or requires the employer to provide that good to his employees. The effects of these programs are compared to the effects of public provision programs in terms of economic efficiency and the income distribution. Although mandatory benefit programs might be desirable in terms of efficiency, public provision programs look better in terms of income distribution. It is shown that if it is possible to have a mixed system, under normal circumstances it is always desirable to have at least some degree of public provision.

More specifically the paper refers to one type of social insurance program: health care. Although this program has some unique features, other basic principles apply to the whole range of social benefit programs.

LOS EFECTOS DE LOS CAMBIOS EN EL NIVEL DE PROTECCIÓN SOBRE LAS EXPORTACIONES

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El propósito de este trabajo es evaluar el actual grado de apertura de la economía uruguaya y analizar en qué medida la apertura comercial ha contribuido a desarrollar más aquellos sectores y vincularlos al comercio internacional.

Como criterios de evaluación del grado de apertura se utilizan los indicadores tradicionales y además se proyecta a nivel potencial de exportaciones de acuerdo a la metodología de Chenery y Syrquin. Ambos indicadores relativizan el grado de apertura de uruguay cuando se le compara con países de similar tamaño.

A los efectos de analizar los efectos de la reforma comercial sobre la industria manefacturera se realiza una descomposición de la demanda por sector industrial. A nivel global la contribución de las exportaciones al crecimiento fue importante únicamente en el período 1974-1978. A nivel sectorial las exportaciones aparecen como un factor fundamental de crecimiento para aquellos sectores vinculados únicamente a la región durante el período 1978-1981.

Por último, se estima la incidencia de la protección a nivel global, utilizando un modelo de tres sectores. A pesar de la reducción de la protección nominal, el actual efecto protector de un arancel sigue siendo una carga elevada para el sector exportador.

VOLUNTARY DEBT REDUCTION: INTERNAL OR EXTERNAL PUBLIC DEBT

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The purpose of this paper is to address the question of which of the two debts will be reduced from a theoretical perspective. I will take the need for debt reduction as given, and I will assume that there is a fiscal problem so that reducing any of the debts or both of them closes to sovelcy gap. Furthermore, I will assume that aggrement on debt reduction will imply that one of the two creditors is going to take a larger share of the solvency gap. Both creditors will *fight* to avoid being the chosen ones. I will model this game as a war of attrition (Alesina and Drazen, 1989 and Grilli, 1990).

STEADY GROWTH AND TRANSITION IN A DYNAMIC DUAL MODEL OF THE NORTH AMERICAN FREE TRADE AGREEMENT

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This paper develops a multi-period, general equilibrium model of the impact of the North American Free Trade Agreement (NAFTA) on Mexico. The model has 9 consumption goods sectors and 3 capital goods sectors. At current real interest rates of 10%, the long-run effect of NAFTA is a 2.6% increase in Mexican gross domestic product at world prices. These benefits are substantially higher of NAFTA reduces real interest rates: if the real rate falls to 7.5% the gross domestic product increases by 8.1% in the long-run.

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EL TRATADO DE LIBRE COMERCIO Y LA AGRICULTURA MEXICANA: UN ENFOQUE DE EQUILIBRIO GENERAL APLICADO

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El objetivo principal de la ponencia es discutir los límites y potencialidades que tienen los modelos de equilibrio general (MEG) aplicados para analizar los cambios en la estructura económica de países que, como México, están experimentando cambios sustanciales en materia de política económica.

La reflexión tiene como base un MEG Walrasiano aplicado a México, que intenta capturar la heterogeneidad de su producción agrícola que fue elaborado para cuantificar los posibles impactos en la producción y comercio agropecuarios del país que traería consigo la firma de un tratado de libre comercio con Canadá y los E.U.A. (TLC).

Una vez descritas las características del modelo y los resultados que arroja al simular la liberalización entre los tres países, discuto la pertinencia de las especificaciones usadas respecto a las características de la producción agrícola de México y sus relaciones económicas en el exterior; hago énfasis en las elasticidades de las funciones de producción agrícola usadas, en los supuestos hechos sobre los flujos de ahorro externo y en los parámetros utilizados en las funciones de exportación, así como en la selección del *numerario*. Debido a la incertidumbre que existe sobre tales cuestiones, propongo especificaciones distitntas para elaborar modelos alternativos y para comparar sus resultados con los del MEG original.

ESTIMACIÓN DE LA DEMANDA POR DINERO DEL PERÚ (1979-1991): UNA APLICACIÓN DE LOS ENFOQUES DE COINTEGRACIÓN Y CORRECCIÓN DE ERRORES

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El presente trabajo constituye una primera aproximación a la estimación de la demanda por dinero en Perú durante 1979-1991, según la modelación econométrica inglesa o también llamada dinámica. La motivación surge del hecho de que los trabajos tradicionales realizados para el caso peruano han sido escasos, y que tantos éstos como los realizados para otros países han estado expuestos a una serie de problemas econométricos, que pueden ocasionar resultados y conclusiones equivocadas.

En este trabajo, los problemas anteriores se abordan desde la perspectiva de la econometría dinámica, enfatizándose el proceso de modelación econométrica de lo general a lo particular (Hendry y Richard, 1983). Este trabajo encuentra una especificación dinámica adecuada (modelo de corrección de errores) para la demanda por dinero del período 1979-1988 según la metodología econométrica dinámica, bajo las técnicas propuestas y la restricción de información disponible. El rechazo de la hipótesis nula de no cointegración asegura la existencia de una función de demanda por dinero de largo plazo ocn parámetros estables, condición básica para el uso de los agregados monetarios en la conducción de política. Por último, se discute la posibilidad de un quiebre estructural a partir del segundo trimestre de 1988 concordando con el comienzo de la alta inflación del Perú a fines de los ochentas. Las futuras extensiones de esta metodología para datos más recientes se discute brevemente al final del artículo.

HYPERINFLATION AND MORAL HAZARD IN THE APPROPRIATION OF SEIGNORAGE

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The paper presents a positive model of hyperinflation. The unstable institutional environment and political climate that has typically accompanied those episodes is captured by the presence of several units *competing* for seignorage and by a structure of information that prevents them from perfectly monitoring their actions. Despite the permanent extreme inflation bias of such an environment, relatively protracted periods of moderate inflation can be supported by strategies prescribing reversions to *money transfers wars* each time a publicly observed signal exceeds a trigger value. The main hypothesis explored by this paper is that those reversionary episodes correspond to the hyperinflationary experiences of several economies in the last two decades. This hypothesis is explored by studying the sequentially rational Nash equilibria that emerge from adapting to this dynamic setting contingent pure strategies in the spirit of those proposed by Green and Porter in a different context.

The model predicts that hyperinflation are bound to occur with positive probability as long as the government realties on money creation to finance its stochastic consumption.

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THE EFFICIENCY OF CREDIT MARKETS WITH SCREENING

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This paper examines the welfare implications of bank screening in the credit market. It does so by developing a partial equilibrium model of screening by loan size and embedding this in a general equilibrium framework. The partial equilibrium model treats loans supplied by banks as a variable input in firms' production functions and loan size as a screening device. The model finds a sequential equilibrium where bank contracts to deal with information asymmetries do allow banks to avoid credit rationing, but preclude loan allocation by expected return. It is usually assumed that sorting contracts are constrained Pareto efficient. The funereal equilibrium approach finds that government-imposed subsidies or taxes on the loan rate can be Pareto-improving because sorting contracts cause marginal rates of substitution between borrower and bank to diverge. At least in theory, government can improve on the decentralized system which, constrained not to make a loss, lacks the government's redistributive ability.

COINTEGRAÇÃ E TAXA DE CÂMBIO, TESTES SOBRE PPP E TERMOS DE TROCA NO BRASIL, 1855-1990

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The debate about the fundamental factors that determine the exchange rate is still unsettled in economics. Among the theories focusing on the long term determinants of the real exchange rate qre the theory of purchasing power parity and other less structured views centering on real factors such as the terms of trade. This paper applies unit root and co-integration tests on Brazilian data from 1855 to 1990 to test two hypothesis: if PPP explains the observed secular behavior of the real exchange rate for Brazil and if changes in the terms of trade influence the real exchange rate in the long-run. The results of unit root tests reject the hypothesis of absolute PPP, indicating a need to search for other factors that, together with the terms of trade, explain the trajectory of the real exchange in the long run.