

# JUAN MANUEL JULIO ROMAN

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## SUMMARY

Twenty years of experience in macro econometric central bank modeling, statistical modeling of central bank financial risks and sampling methodologies for macro economic data production. High quantitative profile, fast learner and very adaptable to the development and implementation of stochastic, econometric and time series modeling methodologies. High level of computer literacy and able to develop computing applications from basic formulation to end user interfaces. Able to pursue independent research and as part of teams. Good oral and written communication skills according to experience as researcher and part time college and master's level professor, and able to produce technical reports. Mother language is Spanish but also very proficient in English. Nationality: Colombian and currently residing in Colombia.

## EDUCATION

**M. Sc. Statistics**, 1995  
The University of Chicago

**B. Sc. Statistics**, 1988  
Universidad Nacional de Colombia  
Honorific Mention Because of Thesis

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### **Econometric Perspectives**

Professor Hashem Pesaran  
Summer 2000  
IMF Institute, International Monetary Fund,  
Washington, USA

### **ARCH-GARCH Modeling**

Mark Watson  
Summer 2000  
IMF Institute, International Monetary Fund,  
Washington, USA

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### **Transmission Mechanisms of Monetary Policy.**

Fall 2000  
CCBS (Bank of England) Centre for Central bank  
Studies,  
London, UK

### **Discrete Choice Models**

Summer 2004.  
Professor Melvyn Weeks, **Cambridge U.**  
Universidad del Rosario,  
Bogotá D C

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### **Topics in Empirical Industrial Organization**

Summer 2008.  
Professor Melvyn Weeks, **Cambridge U.**  
Universidad del Rosario,  
Bogotá D C

## PROFESSIONAL EXPERIENCE

### Researcher

Sep. 1988 – Nov. 1988

*Special Projects Unit*

**A C Nielsen Colombia**, Bogotá D.C., Colombia

- Design and implementation of statistical and sampling methodologies for special market research projects.
- Sampling efficiency improvement for drugstore products in the continuous production of market statistics.

### Professional B

Nov. 1988 – May. 1990

*Data Management Unit / Statistics Unit, Economics Research vice Presidency*

**Banco de la República**, Bogotá D.C., Colombia

- Design and implementation of statistical and sampling methodologies for the Wholesale Sales Index.
- Sampling efficiency improvement, implementation and software solution for the production of the Wholesale Price Index, IPM, now known as PPI.

### Professional B

Jun. 1990 – Jun. 1995

*International Unit, Economics Research Vice Presidency*

**Banco de la República**, Bogotá D.C., Colombia

- Design and implementation of sampling methodology, database management development and processing for the Colombian Frontier Trade Survey.
- Design and implementation of the International Trade Data base system and the Yearly Manufacture Survey.
- Empirical research on monetary issues.
- Software solution for the measurement methodologies of international trade and Frontier Trade for the Balance of Payments.

### Econometrician

Jun. 1995 – Aug 2001

*Econometrics unit, Technical Presidency*

**Banco de la República**, Bogotá D.C., Colombia

- Econometric support for macro and monetary research.
- Empirical research for Monetary Policy decisions.
- Design of the monetary policy Transmission Mechanisms Model, the central model for policy analysis and forecasting in the bank.

### Researcher

Sep. 2001 – Dec. 2003

*Financial Vice Presidency*

**Banco de la República**, Bogotá D.C., Colombia

- Econometric support for market risk measurement derived from credit risk on the bank's Monetary Policy Implementation REPO operations, "Haircuts".
- Empirical research on spot curve estimation for Colombian treasury bonds,
- Econometric support for portfolio valuation regulation issued by the Colombian financial sector supervisor agency, "Super Intendencia Bancaria".
- Econometric support for the Market Development and Operations and Reserve Management Units of the Financial vice Presidency.

### Associate Econometrician

Jan. 2004 – Feb. 2006

*Macro economic Models Department, Economics Research vice Presidency*

**Banco de la República**, Bogotá D.C., Colombia

- Estimation and calibration of the Transmission Mechanism Model, MMT, the bank's core model for monetary policy analysis and forecasting.
- Empirical research on the stylized facts of the Colombian economy to be included in the MMT model.
- Statistics and Econometrics support for the financial vice presidency on financial market risk, credit risk, and portfolio optimization and management.

**Associate Econometrician****Feb. 2006 – Mar. 2007***Econometrics Unit, Technical Presidency***Banco de la República, Bogotá D.C., Colombia**

- Empirical research on monetary and financial issues.
- Econometric support for empirical macro economic research at the Economics research vice presidency.
- Econometric support for empirical financial research at the Financial vice presidency.

**Researcher****Mar. 2007 – Today***Macro economic Models Department, Economics Research vice Presidency***Banco de la República, Bogotá D.C., Colombia**

- Econometric support for the development of the Colombia's central bank main model for policy analysis and forecasting.
- Empirical research on monetary and financial issues.
- Econometric support for empirical financial research for the Financial Vice Presidency.

## AWARDS AND PRIZES

**2005 Rodrigo Gómez “Central Bank Prize”**

“Disinflation Costs Under Inflation Targeting in a Small Open Economy: The Colombian Case”

with Franz Hamman, Paulina Restrepo and Alvaro Riascos

CEMLA, Center for Latin American Monetary Studies, Mexico DF.

EL TIEMPO Newspaper, Economics Section, October 18 2005.

**Honorable Mention Because of Graduation Thesis**

“Notas Sobre la Determinación de la Distribución de los Valores Propios en Análisis Multivariado”

Universidad Nacional de Colombia

Bogotá, December 1988

## COMPUTER LITERACY

**Visual Basic for Applications**

- New Fan Chart Software for the inflation report.
- Estimation of the Colombian spot curve from Treasury bonds using Fisher, M., Nychka, D. and Zervos, D. (1995) smoothing splines technique.
- Fixed income calculations for Colombian Treasury bonds.
- Old “Fan Chart” Software
- Estimate univariate density using kernel methods.

**Matlab**

- Estimation of DSGE models using the spectral density.
- Estimation of smoothed multivariate spectral density from data and State Space Representations of theoretical DSGE models.
- Restricted or “prior restricted” Hodrick Prescott filter.

**SAS (Most of my empirical work)**

- Design and implementation of data capture, data base design and administration, processing and reporting of the Wholesale Sales Index. SAS/BASE and SAS/IML.
- Design and implementation of database management and reporting for international trade databases for the Balance of Payments. SAS/BASE.

- Design and implementation of data capture, data base design and administration, processing and reporting of the Wholesale Sales Index. SAS/BASE and SAS/IML.
- Design and implementation of data base administration, processing and reporting of the Wholesale Price Index. SAS/BASE and SAS/IML.
- Design and implementation of data capture, data base design and administration, processing and reporting of Frontier Trade survey. SAS/BASE and SAS/IML.
- Multifactor model estimation for the measurement of interest rate, liquidity and exchange rate risks from spot curve estimations and bid offer data for the Monetary Regulation Portfolio (composed of Colombian Treasury bills). SAS/BASE and SAS/IML.
- Portfolio optimization program for the Monetary Regulation Portfolio. SAS/IML.
- Database system development and management for Monetary Regulation Portfolio administration. SAS/BASE
- Bayesian estimation of credit quality transition matrices for credit risk measurement on mortgages. SAS/IML
- Measurement of market risk derived from credit risk in REPO operations, “Haircuts”. SAS/BASE SAS/IML
- Computing market value of securities (country backed) able to trade in REPO operations with the bank. SAS/IML
- Computing the “Haircut” value for securities able to trade in REPO operations with the bank. SAS/BASE SAS/IML
- Database management system for “Haircut” estimation. SAS/BASE
- Estimating spot curves under alternative methodologies. SAS/IML
- Design and implementation of database management for import/export reports for balance of payments computation.
- Design and implementation of sample surveys and database management for the estimation and associated reports for frontier and tourism income derived from frontier commerce.
- Many other econometric programs and sampling techniques.

**RATS**

Good knowledge

**E-Views**

Good knowledge

**S-Plus**

Good knowledge

**MS Office products**

Good knowledge

**Basics of unix**

Good knowledge

## **ASSOCIATIONS**

**American Statistical Association**

**1994-1997 and 2005**

**Latin American and Caribbean Economic Association**

**1998-2000 and 2005**

## PUBLIC PRESENTATIONS

<b>Speaker</b> <b>Colombian DC Statistics Colloquia</b> Bogotá, DC	<b>1987 and 2005</b>
<b>Speaker</b> <b>2000 Latin American and Caribbean Economic Association Meeting</b> Santiago, Chile	<b>Fall 2000</b>
<b>Speaker</b> <b>2000 Latin American Central Bank Researchers Meeting</b> Santiago, Chile	<b>Fall 2000</b>
<b>2005</b> <b>Latin American and Caribbean Economic Association Meeting</b> Paris, France	<b>Fall 2005</b>

## TEACHING EXPERIENCE

<b>Associate Professor</b> <i>Department of Statistics</i> <i>Universidad Nacional de Colombia, Bogotá D.C., Colombia</i>	<b>Jan. 2005 – Today</b>
<ul style="list-style-type: none"><li>Lecturer in “Probability”, “Stochastic Processes”, “Statistical Inference”, “Advanced Econometrics”, “Time series” and “Topics in Macroeconometrics” for under-graduate and Ms statistics and economics students.</li></ul>	
<b>Lecturer</b> <i>Graduate and under graduate programs in Economics</i> <i>Rosario, Javeriana, Andes and Nacional Universities, Bogotá D.C., Colombia</i>	<b>Jan. 1996 – Dec. 2004</b>
<ul style="list-style-type: none"><li>Lecturer in “Sampling Methodology”, “Probability”, “Mathematical Statistics”, “Quantitative Methods”, “Econometrics I”, “Advanced Econometrics”, “Econometric Topics”, “Readings on Macro econometrics” and “Financial Valuation Methods”.</li></ul>	

## RESEARCH AND PUBLICATIONS

### Books

- Hamann, F., Julio, J. M., Restrepo, P., Riascos, A. (2009)** “Costos de la desinflación en un sistema de metas de inflación en una economía pequeña y abierta: el caso de Colombia”, Center for Latin American Monetary Studies, CEMLA. México, DF. ISBN 978-607-7734-00-0

### Papers

- Julio, J. M. (2009)** “Problema de Agente-Principal con Garantía de Desempeño Mínimo: El Caso de las Cuentas Obligatorias de Ahorro Individual de Pensión”, (Forthcoming) Chapter in the book: “*Pensiones y portafolio: la construcción de una política pública*”, Editor: Juan Mario Laserna, Banco de la República, Bogotá, Colombia.

2. **Julio, J. M. y Zarate, H. (2009)** “The Price Setting Behavior in Colombia: Evidence from PPI Micro Data”, *Ensayos Sobre Política Económica*, Vol. 26, Number 56, June 2008, 12-44. [http://www.banrep.gov.co/docum/ensayos/pdf/espe\\_056-1.pdf](http://www.banrep.gov.co/docum/ensayos/pdf/espe_056-1.pdf)
3. **Julio, J. M. (2005)** “Implementación, Uso e Interpretación del Fan Chart”, *Revista Colombiana de Estadística*, Vol 29, # 1, 109-131.
4. **Gomez, J & Julio, J.M. (2003)**, “Transmission Mechanisms and Inflation Targeting: The Case of the Colombian Disinflation, *Revista de Análisis Económico ILADES / Georgetown University*, Vol 18 Number 2. Dec. 2003, 109-133. <http://www.banrep.gov.co/docum/borrasem/borra168-4.htm>
5. **Gomez, J & Julio, J.M. (2004)**, “Estimating the Transmission Mechanisms: The Case of Colombia”, Chapter of the book “How monetary policy works: comparing estimates of the transmission mechanism between developing, transitional and industrialised countries.” Mahadeva, L. and P. Sinclair (eds), Routledge, London and New York, ISBN 0415343518, páginas 139-168. <https://ecommerce.tandf.co.uk/catalogue/DetailedDisplay.asp?ISBN=0415343518&ResourceCentre=SEARCH&RedirectPage=PerformSearch%2Easp&curpage=1>
6. **Julio, J. M. & Gomez, J. (1998)**, “Output Gap Estimation, Estimation Uncertainty and its Effect on monetary rules”, *ESPE*, 34, 89-116 <http://www.banrep.gov.co/docum/borrasem/borra125-4.htm>
7. **Julio, J. M. (1995)** “Choques Grandes / Choques Pequeños: Evidencia del Log IPC e Inflación Colombianos”, *ESPE*, 28, 59-93. <http://www.banrep.gov.co/docum/borrasem/borra043-4.htm#dos>
8. **Herrera, S, & Julio, J. M. (1993)**, “La Demanda de Dinero en el Corto y en el Largo Plazo en Colombia”, *Coyuntura Económica*, Vol. 23, # 1, 91-107.
9. **Mora, H., Julio, J. M. & Herrera, S. (1991)**, “Crisis Cambiaria en un Sistema con Minidevaluaciones: El Caso Colombiano”, *ESPE*, 20, 7-51. [http://www.banrep.gov.co/docum/ensayos/pdf/espe\\_020-1.pdf](http://www.banrep.gov.co/docum/ensayos/pdf/espe_020-1.pdf)
10. **Julio, J. M. & Mora, H. (1990)**, “Costos de liquidez en los Bancos”, *ESPE*, 18, 133-191. [http://www.banrep.gov.co/docum/ensayos/pdf/espe\\_018-5.pdf](http://www.banrep.gov.co/docum/ensayos/pdf/espe_018-5.pdf)

## **Working Papers**

1. **Julio, J. M., Zárate, H and Hernandez, M. (2009)** “The Stickiness of Colombian Consumer Prices”, *Borradores de Economía* # 578. <http://www.banrep.gov.co/docum/ftp/borra578.pdf>
2. **Julio, J. M. (2007)** “The Fan Chart: The Technical details of the New Implementation”, *Borradores de Economía* # 468. <http://www.banrep.gov.co/docum/ftp/borra468.pdf>
3. **Julio, J. M. (2007)** “Does the Spot Curve Contain Information on the Future Monetary Policy in Colombia?”, *Borradores de Economía* # 463. <http://www.banrep.gov.co/docum/ftp/borra463.pdf>
4. **Julio, J. M. (2006)** “The Monetary Policy Rule During the Transition to a Stable Level of Inflation: The case of Colombia. *Borradores de Economía* # 404. <http://www.banrep.gov.co/docum/ftp/borra404.pdf>.

5. **Julio, J. M. (2005)** “Es Válida la Hipótesis de Expectativas de la Estructura de Plazos de las Tasas de Interés en Colombia?”, mimeo, BANCO DE LA REPUBLICA.
6. **Mera, S., y Julio, J. (2005)** “Propuesta para la Administración del Portafolio de Regulación Monetaria”, confidential mimeo, BANCO DE LA REPUBLICA.
7. **Julio, J., Rodriguez, N. y Zarate, H. (2005)** “Estimating the COP Exchange Rate Volatility Smile and the Market Effect of Central Bank Interventions: A CHARN Approach”, Borradores de Economía # 347. <http://www.banrep.gov.co/docum/ftp/borra347.pdf>
8. **Toro, J. & Julio, J. M. (2005)** “Efectividad de la Intervención Discrecional del Banco de la República en el Mercado Cambiario”, Borradores de Economía # 336, <http://www.banrep.gov.co/docum/ftp/borra336.pdf>
9. **Hamann, F., Julio, J. M., Restrepo, P., Riascos, A. (2004)** “Disinflation Costs under Inflation Targetting in a Small Open Economy: The Colombian Case”, South African Reserve Bank workshop on Macroeconomic Modelling, <http://www.reservebank.co.za/workshop/>
10. **Hamann, F., Julio, J. M., Restrepo, P., Riascos, A. (2004)** “Inflation Targeting in a Small Open Economy: The Colombian Case”, Borradores de Economía # 308 <http://www.banrep.gov.co/docum/ftp/borra308.pdf>
11. **Julio, J.M., Mera Silvia J. y Reveiz, Alejandro, (2002)** “La curva Spot (cero cupón): Estimación con splines cúbicos suavizados, usos y ejemplos”, Lecturas en finanzas # 4. [http://www.banrep.gov.co/docum/Lectura\\_finanzas/pdf/lectura4.pdf](http://www.banrep.gov.co/docum/Lectura_finanzas/pdf/lectura4.pdf)
12. **Julio, J.M. (2001)** “Relación Entre La Tasa De Intervención Del Banco De La Republica y Las Tasas Del Mercado: Una Exploración Empírica” Borradores de Economía,, # 188. Reportes del emisor # 29. <http://www.banrep.gov.co/docum/borrasem/borra188-4.htm>
13. **Julio, J.M. (2001)** “How Uncertain are NAIRU Estimates in Colombia?”, Borradores de Economía, # 184. <http://www.banrep.gov.co/docum/borrasem/borra184-4.htm>
14. **Gomez, J. & Julio, J.M. (2000)** “Estimating the Nonlinear Phillips Curve in Colombia”, Borradores de Economía #160. <http://www.banrep.gov.co/docum/borrasem/borra160-4.htm>