

Document de treball de l'IEB 2012/34

LANGUAGE USE IN EDUCATION AND PRIMARY SCHOOLING ATTAINMENT:
EVIDENCE FROM A NATURAL EXPERIMENT IN ETHIOPIA

Rajesh Ramachandran

**LANGUAGE USE IN EDUCATION AND PRIMARY
SCHOOLING ATTAINMENT: EVIDENCE FROM
A NATURAL EXPERIMENT IN ETHIOPIA**

Rajesh Ramachandran

The **Barcelona Institute of Economics (IEB)** is a research centre at the University of Barcelona which specializes in the field of applied economics. Through the **IEB-Foundation**, several private institutions (Applus, Abertis, Ajuntament de Barcelona, Diputació de Barcelona, Gas Natural and La Caixa) support several research programs.

Postal Address:

Institut d'Economia de Barcelona
Facultat d'Economia i Empresa
Universitat de Barcelona
C/ Tinent Coronel Valenzuela, 1-11
(08034) Barcelona, Spain
Tel.: + 34 93 403 46 46
Fax: + 34 93 403 98 32
ieb@ub.edu
<http://www.ieb.ub.edu>

The IEB working papers represent ongoing research that is circulated to encourage discussion and has not undergone a peer review process. Any opinions expressed here are those of the author(s) and not those of IEB.

**LANGUAGE USE IN EDUCATION AND PRIMARY
SCHOOLING ATTAINMENT: EVIDENCE FROM
A NATURAL EXPERIMENT IN ETHIOPIA***

Rajesh Ramachandran

ABSTRACT: The extensive use of foreign languages in schooling might have an important role to play in the poor educational outcomes observed on the African continent. Exploiting the language policy change of 1994 in Ethiopia as a natural experiment, we estimate the effects of provision of mother tongue instruction on the largest ethnic group in the country. Our results suggest that provision of mother tongue education led to an increase of 0.75 to 1 year of primary schooling in the affected cohort. Moreover the entire increase in the years of schooling can be attributed to the intensive margin of education. The language policy change, conditional on enrolment, increased the percentage of people completing 6 years or more of schooling by 31%. Applying our findings to a set of African countries shows that even after accounting for the costs of provision, introduction of mother tongue instruction imply potentially large benefits and increases the percentage of population completing primary schooling by as much as 15% points. These findings have important policy implications at a time when surging enrolment rates and already stretched educational budgets in the African continent imply need for solutions which can increase the quality of education without requiring huge capital or infrastructural outlays.

JEL Codes: I24, I25, I28, Z18

Keywords: Education, language policy, difference in difference estimator, institutions.

Rajesh Ramachandran
Universitat Autònoma de Barcelona
Campus de la UAB
08193, Bellaterra (Cerdanyola del Vallès). Barcelona, Spain..
Email: rajesh.ramachandran@uab.cat

* I would like to thank Ana Rute Cardoso, Francesco Fasani, Hannes Mueller, Lidia Farr`e, Tommaso Agasisti and the participants at the summer school in development economics, Italy, 2012 and the IIIrd workshop on education economics at the University of Barcelona for their invaluable suggestions, helpful discussions and comments. All errors are mine.

2010

- 2010/1, **De Borger, B., Pauwels, W.:** "A Nash bargaining solution to models of tax and investment competition: tolls and investment in serial transport corridors"
- 2010/2, **Chirinko, R.; Wilson, D.:** "Can Lower Tax Rates Be Bought? Business Rent-Seeking And Tax Competition Among U.S. States"
- 2010/3, **Esteller-Moré, A.; Rizzo, L.:** "Politics or mobility? Evidence from us excise taxation"
- 2010/4, **Roehrs, S.; Stadelmann, D.:** "Mobility and local income redistribution"
- 2010/5, **Fernández Llera, R.; García Valiñas, M.A.:** "Efficiency and elusion: both sides of public enterprises in Spain"
- 2010/6, **González Alegre, J.:** "Fiscal decentralization and intergovernmental grants: the European regional policy and Spanish autonomous regions"
- 2010/7, **Jametti, M.; Joanis, M.:** "Determinants of fiscal decentralization: political economy aspects"
- 2010/8, **Esteller-Moré, A.; Galmarini, U.; Rizzo, L.:** "Should tax bases overlap in a federation with lobbying?"
- 2010/9, **Cubel, M.:** "Fiscal equalization and political conflict"
- 2010/10, **Di Paolo, A.; Raymond, J.L.; Calero, J.:** "Exploring educational mobility in Europe"
- 2010/11, **Aidt, T.S.; Dutta, J.:** "Fiscal federalism and electoral accountability"
- 2010/12, **Arqué Castells, P.:** "Venture capital and innovation at the firm level"
- 2010/13, **García-Quevedo, J.; Mas-Verdú, F.; Polo-Otero, J.:** "Which firms want PhDs? The effect of the university-industry relationship on the PhD labour market"
- 2010/14, **Calabrese, S.; Epple, D.:** "On the political economy of tax limits"
- 2010/15, **Jofre-Monseny, J.:** "Is agglomeration taxable?"
- 2010/16, **Dragu, T.; Rodden, J.:** "Representation and regional redistribution in federations"
- 2010/17, **Borck, R.; Wimersky, M.:** "Political economics of higher education finance"
- 2010/18, **Dohse, D.; Walter, S.G.:** "The role of entrepreneurship education and regional context in forming entrepreneurial intentions"
- 2010/19, **Åslund, O.; Edin, P-A.; Fredriksson, P.; Grönqvist, H.:** "Peers, neighborhoods and immigrant student achievement - Evidence from a placement policy"
- 2010/20, **Pelegrín, A.; Bolance, C.:** "International industry migration and firm characteristics: some evidence from the analysis of firm data"
- 2010/21, **Koh, H.; Riedel, N.:** "Do governments tax agglomeration rents?"
- 2010/22, **Curto-Grau, M.; Herranz-Loncán, A.; Solé-Ollé, A.:** "The political economy of infrastructure construction: The Spanish "Parliamentary Roads" (1880-1914)"
- 2010/23, **Bosch, N.; Espasa, M.; Mora, T.:** "Citizens' control and the efficiency of local public services"
- 2010/24, **Ahamdanech-Zarco, I.; García-Pérez, C.; Simón, H.:** "Wage inequality in Spain: A regional perspective"
- 2010/25, **Folke, O.:** "Shades of brown and green: Party effects in proportional election systems"
- 2010/26, **Falck, O.; Heblich, H.; Lameli, A.; Südekum, J.:** "Dialects, cultural identity and economic exchange"
- 2010/27, **Baum-Snow, N.; Pavan, R.:** "Understanding the city size wage gap"
- 2010/28, **Molloy, R.; Shan, H.:** "The effect of gasoline prices on household location"
- 2010/29, **Koethenbuerger, M.:** "How do local governments decide on public policy in fiscal federalism? Tax vs. expenditure optimization"
- 2010/30, **Abel, J.; Dey, I.; Gabe, T.:** "Productivity and the density of human capital"
- 2010/31, **Gerritse, M.:** "Policy competition and agglomeration: a local government view"
- 2010/32, **Hilber, C.; Lyytikäinen, T.; Vermeulen, W.:** "Capitalization of central government grants into local house prices: panel data evidence from England"
- 2010/33, **Hilber, C.; Robert-Nicoud, F.:** "On the origins of land use regulations: theory and evidence from us metro areas"
- 2010/34, **Picard, P.; Tabuchi, T.:** "City with forward and backward linkages"
- 2010/35, **Bodenhorn, H.; Cuberes, D.:** "Financial development and city growth: evidence from Northeastern American cities, 1790-1870"
- 2010/36, **Vulovic, V.:** "The effect of sub-national borrowing control on fiscal sustainability: how to regulate?"
- 2010/37, **Flamand, S.:** "Interregional transfers, group loyalty and the decentralization of redistribution"
- 2010/38, **Ahlfeldt, G.; Feddersen, A.:** "From periphery to core: economic adjustments to high speed rail"
- 2010/39, **González-Val, R.; Pueyo, F.:** "First nature vs. second nature causes: industry location and growth in the presence of an open-access renewable resource"
- 2010/40, **Billings, S.; Johnson, E.:** "A nonparametric test for industrial specialization"
- 2010/41, **Lee, S.; Li, Q.:** "Uneven landscapes and the city size distribution"

- 2010/42, Ploeckl, F.: "Borders, market access and urban growth; the case of Saxon towns and the Zollverein"
- 2010/43, Hortas-Rico, M.: "Urban sprawl and municipal budgets in Spain: a dynamic panel data analysis"
- 2010/44, Koethenbueger, M.: "Electoral rules and incentive effects of fiscal transfers: evidence from Germany"
- 2010/45, Solé-Ollé, A.; Viladecans-Marsal, E.: "Lobbying, political competition, and local land supply: recent evidence from Spain"
- 2010/46, Larcinese, V.; Rizzo, L.; Testa, C.: "Why do small states receive more federal money? Us senate representation and the allocation of federal budget"
- 2010/47, Patacchini, E.; Zenou, Y.: "Neighborhood effects and parental involvement in the intergenerational transmission of education"
- 2010/48, Nedelkoska, L.: "Occupations at risk: explicit task content and job security"
- 2010/49, Jofre-Monseny, J.; Marín-López, R.; Viladecans-Marsal, E.: "The mechanisms of agglomeration: Evidence from the effect of inter-industry relations on the location of new firms"
- 2010/50, Revelli, F.: "Tax mix corners and other kinks"
- 2010/51, Duch-Brown, N.; Parellada-Sabata M.; Polo-Otero, J.: "Economies of scale and scope of university research and technology transfer: a flexible multi-product approach"
- 2010/52, Duch-Brown, N.; Vilalta M.: "Can better governance increase university efficiency?"
- 2010/53, Cremer, H.; Goulão, C.: "Migration and social insurance"
- 2010/54, Mittermaier, F.; Rincke, J.: "Do countries compensate firms for international wage differentials?"
- 2010/55, Bogliacino, F.; Vivarelli, M.: "The job creation effect or R&D expenditures"
- 2010/56, Piacenza, M.; Turati, G.: "Does fiscal discipline towards sub-national governments affect citizens' well-being? Evidence on health"

2011

- 2011/1, Oppedisano, V; Turati, G.: "What are the causes of educational inequalities and of their evolution over time in Europe? Evidence from PISA"
- 2011/2, Dahlberg, M; Edmark, K; Lundqvist, H.: "Ethnic diversity and preferences for redistribution "
- 2011/3, Canova, L.; Vaglio, A.: "Why do educated mothers matter? A model of parental help"
- 2011/4, Delgado, F.J.; Lago-Peñas, S.; Mayor, M.: "On the determinants of local tax rates: new evidence from Spain"
- 2011/5, Piolatto, A.; Schuett, F.: "A model of music piracy with popularity-dependent copying costs"
- 2011/6, Duch, N.; García-Estévez, J.; Parellada, M.: "Universities and regional economic growth in Spanish regions"
- 2011/7, Duch, N.; García-Estévez, J.: "Do universities affect firms' location decisions? Evidence from Spain"
- 2011/8, Dahlberg, M.; Mörk, E.: "Is there an election cycle in public employment? Separating time effects from election year effects"
- 2011/9, Costas-Pérez, E.; Solé-Ollé, A.; Sorribas-Navarro, P.: "Corruption scandals, press reporting, and accountability. Evidence from Spanish mayors"
- 2011/10, Choi, A.; Calero, J.; Escardíbul, J.O.: "Hell to touch the sky? private tutoring and academic achievement in Korea"
- 2011/11, Mira Godinho, M.; Cartaxo, R.: "University patenting, licensing and technology transfer: how organizational context and available resources determine performance"
- 2011/12, Duch-Brown, N.; García-Quevedo, J.; Montolio, D.: "The link between public support and private R&D effort: What is the optimal subsidy?"
- 2011/13, Breuillé, M.L.; Duran-Vigneron, P.; Samson, A.L.: "To assemble to resemble? A study of tax disparities among French municipalities"
- 2011/14, McCann, P.; Ortega-Argilés, R.: "Smart specialisation, regional growth and applications to EU cohesion policy"
- 2011/15, Montolio, D.; Trillas, F.: "Regulatory federalism and industrial policy in broadband telecommunications"
- 2011/16, Pelegrín, A.; Bolancé, C.: "Offshoring and company characteristics: some evidence from the analysis of Spanish firm data"
- 2011/17, Lin, C.: "Give me your wired and your highly skilled: measuring the impact of immigration policy on employers and shareholders"
- 2011/18, Bianchini, L.; Revelli, F.: "Green polities: urban environmental performance and government popularity"
- 2011/19, López Real, J.: "Family reunification or point-based immigration system? The case of the U.S. and Mexico"
- 2011/20, Bogliacino, F.; Piva, M.; Vivarelli, M.: "The impact of R&D on employment in Europe: a firm-level analysis"

- 2011/21, Tonello, M.: "Mechanisms of peer interactions between native and non-native students: rejection or integration?"
- 2011/22, García-Quevedo, J.; Mas-Verdú, F.; Montolio, D.: "What type of innovative firms acquire knowledge intensive services and from which suppliers?"
- 2011/23, Banal-Estañol, A.; Macho-Stadler, I.; Pérez-Castrillo, D.: "Research output from university-industry collaborative projects"
- 2011/24, Ligthart, J.E.; Van Oudheusden, P.: "In government we trust: the role of fiscal decentralization"
- 2011/25, Mongrain, S.; Wilson, J.D.: "Tax competition with heterogeneous capital mobility"
- 2011/26, Caruso, R.; Costa, J.; Ricciuti, R.: "The probability of military rule in Africa, 1970-2007"
- 2011/27, Solé-Ollé, A.; Viladecans-Marsal, E.: "Local spending and the housing boom"
- 2011/28, Simón, H.; Ramos, R.; Sanromá, E.: "Occupational mobility of immigrants in a low skilled economy. The Spanish case"
- 2011/29, Piolatto, A.; Trotin, G.: "Optimal tax enforcement under prospect theory"
- 2011/30, Montolio, D.; Piolatto, A.: "Financing public education when altruistic agents have retirement concerns"
- 2011/31, García-Quevedo, J.; Pellegrino, G.; Vivarelli, M.: "The determinants of YICs' R&D activity"
- 2011/32, Goodspeed, T.J.: "Corruption, accountability, and decentralization: theory and evidence from Mexico"
- 2011/33, Pedraja, F.; Cordero, J.M.: "Analysis of alternative proposals to reform the Spanish intergovernmental transfer system for municipalities"
- 2011/34, Jofre-Monseny, J.; Sorribas-Navarro, P.; Vázquez-Grenno, J.: "Welfare spending and ethnic heterogeneity: evidence from a massive immigration wave"
- 2011/35, Lyytikäinen, T.: "Tax competition among local governments: evidence from a property tax reform in Finland"
- 2011/36, Brülhart, M.; Schmidheiny, K.: "Estimating the Rivalness of State-Level Inward FDI"
- 2011/37, García-Pérez, J.I.; Hidalgo-Hidalgo, M.; Robles-Zurita, J.A.: "Does grade retention affect achievement? Some evidence from Pisa"
- 2011/38, Boffa, f.; Panzar, J.: "Bottleneck co-ownership as a regulatory alternative"
- 2011/39, González-Val, R.; Olmo, J.: "Growth in a cross-section of cities: location, increasing returns or random growth?"
- 2011/40, Anesi, V.; De Donder, P.: "Voting under the threat of secession: accommodation vs. repression"
- 2011/41, Di Pietro, G.; Mora, T.: "The effect of the l'Aquila earthquake on labour market outcomes"
- 2011/42, Brueckner, J.K.; Neumark, D.: "Beaches, sunshine, and public-sector pay: theory and evidence on amenities and rent extraction by government workers"
- 2011/43, Cortés, D.: "Decentralization of government and contracting with the private sector"
- 2011/44, Turati, G.; Montolio, D.; Piacenza, M.: "Fiscal decentralisation, private school funding, and students' achievements. A tale from two Roman catholic countries"

2012

- 2012/1, Montolio, D.; Trujillo, E.: "What drives investment in telecommunications? The role of regulation, firms' internationalization and market knowledge"
- 2012/2, Giesen, K.; Suedekum, J.: "The size distribution across all "cities": a unifying approach"
- 2012/3, Foremny, D.; Riedel, N.: "Business taxes and the electoral cycle"
- 2012/4, García-Estévez, J.; Duch-Brown, N.: "Student graduation: to what extent does university expenditure matter?"
- 2012/5, Durán-Cabré, J.M.; Esteller-Moré, A.; Salvadori, L.: "Empirical evidence on horizontal competition in tax enforcement"
- 2012/6, Pickering, A.C.; Rockey, J.: "Ideology and the growth of US state government"
- 2012/7, Vergolini, L.; Zanini, N.: "How does aid matter? The effect of financial aid on university enrolment decisions"
- 2012/8, Backus, P.: "Gibrat's law and legacy for non-profit organisations: a non-parametric analysis"
- 2012/9, Jofre-Monseny, J.; Marín-López, R.; Viladecans-Marsal, E.: "What underlies localization and urbanization economies? Evidence from the location of new firms"
- 2012/10, Mantovani, A.; Vandekerckhove, J.: "The strategic interplay between bundling and merging in complementary markets"
- 2012/11, García-López, M.A.: "Urban spatial structure, suburbanization and transportation in Barcelona"
- 2012/12, Revelli, F.: "Business taxation and economic performance in hierarchical government structures"
- 2012/13, Arqué-Castells, P.; Mohnen, P.: "Sunk costs, extensive R&D subsidies and permanent inducement effects"

- 2012/14, **Boffa, F.; Piolatto, A.; Ponzetto, G.:** "Centralization and accountability: theory and evidence from the Clean Air Act"
- 2012/15, **Cheshire, P.C.; Hilber, C.A.L.; Kaplanis, I.:** "Land use regulation and productivity – land matters: evidence from a UK supermarket chain"
- 2012/16, **Choi, A.; Calero, J.:** "The contribution of the disabled to the attainment of the Europe 2020 strategy headline targets"
- 2012/17, **Silva, J.I.; Vázquez-Grenno, J.:** "The ins and outs of unemployment in a two-tier labor market"
- 2012/18, **González-Val, R.; Lanaspa, L.; Sanz, F.:** "New evidence on Gibrat's law for cities"
- 2012/19, **Vázquez-Grenno, J.:** "Job search methods in times of crisis: native and immigrant strategies in Spain"
- 2012/20, **Lessmann, C.:** "Regional inequality and decentralization – an empirical analysis"
- 2012/21, **Nuevo-Chiquero, A.:** "Trends in shotgun marriages: the pill, the will or the cost?"
- 2012/22, **Piil Damm, A.:** "Neighborhood quality and labor market outcomes: evidence from quasi-random neighborhood assignment of immigrants"
- 2012/23, **Ploeckl, F.:** "Space, settlements, towns: the influence of geography and market access on settlement distribution and urbanization"
- 2012/24, **Algan, Y.; Hémet, C.; Laitin, D.:** "Diversity and local public goods: a natural experiment with exogenous residential allocation"
- 2012/25, **Martinez, D.; Sjögren, T.:** "Vertical externalities with lump-sum taxes: how much difference does unemployment make?"
- 2012/26, **Cubel, M.; Sanchez-Pages, S.:** "The effect of within-group inequality in a conflict against a unitary threat"
- 2012/27, **Andini, M.; De Blasio, G.; Duranton, G.; Strange, W.C.:** "Marshallian labor market pooling: evidence from Italy"
- 2012/28, **Solé-Ollé, A.; Viladecans-Marsal, E.:** "Do political parties matter for local land use policies?"
- 2012/29, **Buonanno, P.; Durante, R.; Prarolo, G.; Vanin, P.:** "Poor institutions, rich mines: resource curse and the origins of the Sicilian mafia"
- 2012/30, **Anghel, B.; Cabrales, A.; Carro, J.M.:** "Evaluating a bilingual education program in Spain: the impact beyond foreign language learning"
- 2012/31, **Curto-Grau, M.; Solé-Ollé, A.; Sorribas-Navarro, P.:** "Partisan targeting of inter-governmental transfers & state interference in local elections: evidence from Spain"
- 2012/32, **Kappeler, A.; Solé-Ollé, A.; Stephan, A.; Väilä, T.:** "Does fiscal decentralization foster regional investment in productive infrastructure?"
- 2012/33, **Rizzo, L.; Zanardi, A.:** "Single vs double ballot and party coalitions: the impact on fiscal policy. Evidence from Italy"

