

Policy Research Working Papers on
IDA Countries

Sorted by IDA 18 Themes



Table of Contents

03 Climate Change

10 Gender Equality

14 Governance, Institution Building,
and Fragility

16 Economic Transformation and Jobs

Climate Change

Impact of climate change and aquatic salinization on fish habitats and poor communities in southwest coastal Bangladesh and Bangladesh Sundarbans

Fisheries constitute an important source of livelihoods for tens of thousands of poor people in the southwest coastal region of Bangladesh living near the UNESCO Heritage Sundarbans mangrove forest, and they supply a significant portion of protein for millions. Among the various threats fisheries in the southwest coastal region and Sundarbans mangrove forest will face because of climate change, adverse impacts from increased aquatic salinity caused by sea level rise have been identified as one of the greatest challenges. This paper focuses on 83 fish species consumed by poor households in the region. Using the salinity tolerance range for each species, 27 alternative scenarios of climate change in 2050 were investigated to assess the possible impacts of climate change and sea level rise on aquatic salinity, fish species habitats, and the poor communities that consume the affected fish species. The results provide striking evidence that projected aquatic salinization may have an especially negative impact on poor households in the region. The estimates indicate that areas with poor populations that lose species are about six times more prevalent than areas gaining species.

Can improved biomass cookstoves contribute to REDD+ in low-income countries ? evidence from a controlled cooking test trial with randomized behavioral treatments

This paper provides field experiment–based evidence on the potential additional forest carbon sequestration that cleaner and more fuel-efficient cookstoves might generate. The paper focuses on the Mirt (meaning “best”) cookstove, which is used to bake injera, the staple food in Ethiopia. The analysis finds that the technology generates per-meal fuel savings of 22 to 31 percent compared with a traditional three-stone stove with little or no increase in cooking time. Because approximately 88 percent of harvests from Ethiopian forests are unsustainable, these findings suggest that the Mirt stove, and potentially improved cookstoves more generally, can contribute to reduced forest degradation. These savings may be creditable under the United Nations Collaborative Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. Because of the highly specific nature of the Mirt stove and the lack of refrigeration in rural Ethiopia, rebound effects are unlikely, but this analysis was unable completely to rule out such leakage. The conclusions are therefore indicative, pending evidence on the frequency of Mirt stove use in the field. The effects of six randomized behavioral treatments on fuelwood and cooking time outcomes were also evaluated, but limited effects were found.

Community managed forest groups and preferences for REDD contract attributes: a choice experiment survey of communities in Nepal : Community managed forest groups and preferences for REDD+ contract attributes: a choice experiment survey of communities in Nepal

A significant portion of the world’s forests that are eligible for Reducing Emission from Deforestation and Forest Degradation, known as REDD , payments are community managed forests. However, there is little knowledge about preferences of households living in community managed forests for REDD contracts, or the opportunity costs of accepting REDD contracts for these communities. This paper uses a choice experiment survey of rural communities in Nepal to understand respondents’ preferences toward the institutional structure of REDD contracts. The sample is split across communities with community managed forests groups and those without community managed forest groups to see how prior involvement in community managed forest groups affects preferences. The results show that respondents care about how the payments are divided between households and communities, the severity of restrictions on firewood use, the restrictions on grazing, and the fairness of access to community managed forest resources as well as the level of payments. The preferences for REDD contracts are in general similar between community managed and non-community managed forest resource respondents, but there are differences, in particular with regard to how beliefs influence the likelihood of accepting the contracts. Finally, the paper finds that the opportunity cost of REDD payments, although cheaper than many other carbon dioxide abatement options, is higher than previously suggested in the literature.

Preferences for REDD+ contract attributes in low-income countries : a choice experiment in Ethiopia

This paper informs the national and international policy discussions related to the adoption of the United Nations Reducing Emissions from Deforestation and Forest Degradation Programme. Effective program instruments must carefully consider incentives, opportunity costs, and community interactions. A choice experiment survey was applied to rural Ethiopian communities to understand respondents' preferences toward the institutional structure of the program contracts. The results show that respondents have particular preferences about how Reducing Emissions from Deforestation and Forest Degradation programs are structured with regard to the manner in which the payments are divided between the households and the communities, the restrictions on using grazing land, and the level of payments received for the program. Surprisingly, restrictions on firewood collection do not significantly impact contract choice. The paper further analyzes the structure of the preferences by using attribute interaction terms and socio-demographic interaction terms. The analysis finds significant regional variation in preferences, indicating that Reducing Emissions from Deforestation and Forest Degradation should be tailored to specific regions. Finally, the marginal willingness to pay for attributes is calculated using the traditional preference space approach, as well as the more recent willingness-to-pay approach.

The economic viability of jatropha biodiesel in Nepal

Nepal depends entirely on imports for meeting its demand for petroleum products, which account for the largest share in total import volume. Diesel is the main petroleum product consumed in the country and accounts for 38 percent of the total national CO₂ emissions from fuel consumption. There is a general perception that the country would economically benefit if part of imported diesel is substituted with domestically produced jatropha-based biodiesel. This study finds that the economics of jatropha-based biodiesel depend on several factors, such as diesel price, yield of jatropha seeds per hectare, and availability of markets for production byproducts, such as glycerol and jatropha cake. Under the scenarios considered, jatropha biodiesel is unlikely to be economically competitive in Nepal unless seed yields per hectare are implausibly large and high returns can be obtained from byproduct markets that do not yet exist. In the absence of byproduct markets, even earnings from a carbon credit do not help jatropha biodiesel to compete with diesel unless the credit value exceeds US\$50/tCO₂ (which is well above current values) and jatropha seed yield is at or above the midrange of the scenarios considered. Declines in diesel prices from the levels observed in 2009–13 only compound the economic competitiveness issue.

Drinking water salinity and infant mortality in coastal Bangladesh

Bangladesh, with two-thirds of its land area less than five meters above sea level, is one of the most climate-vulnerable countries in the world. Low-lying coastal districts along the Bay of Bengal are particularly vulnerable to sea level rise, tidal flooding, storm surges, and climate-induced increases in soil and water salinity. This paper investigates the impact of drinking water salinity on infant mortality in coastal Bangladesh. It focuses on the salinity of drinking water consumed during pregnancy, which extensive medical research has linked to maternal hypertension, preeclampsia, and post-partum morbidity and mortality. The study combines spatially-formatted salinity measures for 2001-09 provided by Bangladesh with individual and household survey information from the Bangladesh Demographic and Health Surveys for 2004 and 2007. It uses probit and logit analyses to estimate mortality probability for infants less than two months old. Controlling for many other determinants of infant mortality, the analysis finds high significance for salinity exposure during the last month of pregnancy and no significance for exposure during the preceding months. The estimated impact of salinity on infant mortality is comparable in magnitude to the estimated effects of traditionally-cited variables such as maternal age and education, gender of the household head, household wealth, toilet facilities, drinking water sources, and cooking fuels.

Climate change, soil salinity, and the economics of high-yield rice production in coastal Bangladesh

It is a virtual certainty that sea-level rise will continue throughout the century and beyond 2100 even if greenhouse gas emissions are stabilized in the near future. Understanding the economic impacts of salinity intrusion thus is essential for planning adaptation in low-lying coastal areas around the world. This paper presents a case study in Bangladesh on how climate change leads to the spread of soil salinity and the impact on agricultural production in the coastal region. The analysis is conducted in two stages. The first stage predicts future soil salinity for 69 subdistricts, taking into account climate-induced changes in river salinity, temperature, and rainfall by 2050. The second stage uses econometric analysis to predict the impact of climate-induced increases in soil salinity on the output and price of high-yielding-variety rice. The findings indicate output declines of 15.6 percent in nine subdistricts where soil salinity will exceed 4 deciSiemens per meter before 2050. Without newly developed coping strategies, the predicted changes will produce significant income declines from high-yielding-variety rice production in many areas, including a 10.5 percent loss in Barisal region and a 7.5 percent loss in Chittagong region.

Climate change, groundwater salinization and road maintenance costs in coastal Bangladesh

The potentially-adverse impact of salinity on paved roads is well-established in the engineering literature. The problem seems destined to grow, as climate-related changes in sea level and riverine flows drive future increases in groundwater salinity. However, data scarcity has prevented systematic analysis for poor countries. This paper assesses the impact of groundwater salinity on road maintenance expenditures in the coastal region of Bangladesh. The assessment draws on new panel measures of salinity from 41 stations in coastal Bangladesh, and road maintenance expenditures, income, road network length, and road surfaces from 20 coastal municipalities. In a model relating maintenance expenditure for paved roads to groundwater salinity, municipal income, and road network length, large and significant effects are found for salinity. The regression model is used to predict the effect of within-sample salinity variation on road maintenance expenditure share, holding municipal income and road length constant at sample mean values. Increasing salinity from its sample minimum to its sample maximum increases the predicted road maintenance expenditure share by 252 percent. The implied welfare impact may also be substantial, particularly for poor households, if diversion of expenditures to road maintenance reduces support for community sanitation, health, and other infrastructure related programs.

Facing the hungry tide : climate change, livelihood threats, and household responses in coastal Bangladesh

This paper quantifies the impact of inundation risk and salinization on the family structure and economic welfare of coastal households in Bangladesh. These households are already on the "front line" of climate change, so their adaptation presages the future for hundreds of millions of families worldwide who will face similar threats by 2100. The analysis is based on a household decision model that relates spatial deployment of working-age, migration-capable members to inundation and salinization threats. The analysis uses appropriate estimation techniques, including adjustments for spatial autocorrelation, and finds that households subject to high inundation and salinization threats have significantly higher out-migration rates for working-age adults (particularly males), dependency ratios, and poverty incidence than their counterparts in non-threatened areas. The findings indicate that the critical zone for inundation risk lies within four kilometers of the coast, with attenuated impacts for coastal-zone households at higher elevations. The results paint a sobering picture of life at the coastal margin for Bangladeshi households threatened by inundation and salinization, particularly households that are relatively isolated from market centers. They respond by "hollowing out," as economic necessity drives more working-age adults to seek outside earnings. Those left behind face a far greater likelihood of extreme poverty than their counterparts in less-threatened areas. The powerful results for market access, coupled with previous findings on salinity and road maintenance, suggest that infrastructure investment may offer a promising option. Road improvements that reduce travel times for isolated settlements compensate them for an increase in salinity. Thus, road improvement may warrant particular attention as an attractive adaptation investment in coastal Bangladesh.

Protected areas and deforestation : new results from high resolution panel data

This paper investigates the effectiveness of protected areas in slowing tropical forest clearing in 64 countries in Asia/Pacific, Africa, and Latin America for the period 2001-2012. The investigation compares deforestation rates inside and within 10 kilometers outside the boundary of protected areas. Annual time series of these deforestation rates were constructed from recently published high-resolution data on forest clearing. For 4,028 parks, panel estimation based on a variety of park characteristics was conducted to test if deforestation is lower in protected areas because of their protected status, or if other factors explain the difference. For a sample of 726 parks established since 2002, a test also was conducted to investigate the effect of park establishment on protection. The findings suggest park size, national park status, and management by indigenous people all have significant association with effective protection across regions. For the Asia/Pacific region, the test offers compelling evidence that park establishment has a near-immediate and powerful effect.

50 years of urbanization in Africa : examining the role of climate change

This paper documents a significant impact of climate variation on urbanization in Sub-Saharan Africa, primarily in more arid countries. By lowering farm incomes, reduced moisture availability encourages migration to nearby cities, while wetter conditions slow migration. The paper also provides evidence for rural-urban income links. In countries with a larger industrial base, reduced moisture shrinks the agricultural sector and raises total incomes in nearby cities. However, if local cities are entirely dependent on servicing agriculture so their fortunes move with those of agriculture, reduced moisture tends to reduce local urban incomes. Finally, the paper shows that climate induces employment changes within the rural sector itself. Drier conditions induce a shift out of farm activities, especially for women, into non-farm activities, and especially out of the workforce. Overall, these findings imply a strong link between climate and urbanization in Africa.

River salinity and climate change : evidence from coastal Bangladesh

In a changing climate, saltwater intrusion is expected to worsen in low-lying coastal areas around the world. Understanding the physical and economic effects of salinity ingress, and planning adaptation, are key to the long-term development of countries for which sea level rise has been identified as a major risk from climate change. This paper presents a study conducted in Bangladesh, which quantifies the prospective relationship between climate-induced changes in sea level, temperature, rainfall, and altered riverine flows from the Himalayas, and the spread and intensity of salinization on river water in the coastal zone for 2050. The research takes into account the projected land subsidence of the Ganges Delta, as well as alternative scenarios of upstream withdrawal of freshwater. The findings indicate that climate change will cause significant changes in river salinity in the southwest coastal area of Bangladesh by 2050. These changes are likely to lead to significant shortages of drinking water in the coastal urban areas, scarcity of water for irrigation for dry-season agriculture, and significant changes in the coastal aquatic ecosystems. Changes in the availability of freshwater fish will likely affect the composition of capture fishery, although the increase in brackish water will enhance opportunities for brackish water aquaculture. Assessment of location-specific economic impacts of the changes in river salinity, identification of suitable adaptation alternatives, and costing of adaptation are high priorities for further analysis.

The benefits of solar home systems :an analysis from Bangladesh

The Government of Bangladesh, with help from the World Bank and other donors, has provided aid to a local agency called Infrastructure Development Company Limited and its partner organizations to devise a credit scheme for marketing solar home system units and making these an affordable alternative to grid electricity for poor people in remote areas. This paper uses household survey data to examine the financing scheme behind the dissemination of these solar home systems, in particular the role of the subsidy; the factors that determine the adoption of the systems in rural Bangladesh; and the welfare impacts of such adoption. The paper finds that while the subsidy has been declining over time, the demand for solar home systems has seen phenomenal growth, mostly because of technological developments that have made the systems increasingly more affordable. Households with better physical and educational endowments are more likely to adopt solar home systems than poor households. The price of the system matters in household decision making -- a 10 percent decline in the price of the system increases the overall demand for a solar panel by 2 percent. As for the benefits, adoption of a solar home system improves children's evening study time, lowers kerosene consumption, and provides health benefits for household members, in particular for women. It is also found to increase women's decision-making ability in certain household affairs. Finally, it is found to increase household consumption expenditure, although at a small scale.

Addressing household air pollution : a case study in rural Madagascar

Household air pollution is the second leading cause of disease in Madagascar, where more than 99 percent of households rely on solid biomass, such as charcoal, wood, and crop waste, as the main cooking fuel. Only a limited number of studies have looked at the emissions and health consequences of cook stoves in Africa. This paper summarizes an initiative to monitor household air pollution in two towns in Madagascar, with a stratified sample of 154 and 184 households. Concentrations of fine particulate matter and carbon monoxide in each kitchen were monitored three times using UCB Particle Monitors and GasBadge Pro Single Gas Monitors. The average concentrations of both pollutants significantly exceeded World Health Organization guidelines for indoor exposure. A fixed-effect panel regression analysis was conducted to investigate the effects of various factors, including fuel (charcoal, wood, and ethanol), stove (traditional and improved ethanol), kitchen size, ventilation, building materials, and ambient environment. Judging by its effect on fine particulate matter and carbon monoxide, ethanol is significantly cleaner than biomass fuels and, for both pollutants, a larger kitchen significantly improves the quality of household air. Compared with traditional charcoal stoves, improved charcoal stoves were found to have no significant impact on air quality, but the improved wood stove with a chimney was effective in reducing concentrations of carbon monoxide in the kitchen, as was ventilation.

Should Zambia produce biodiesel from soybeans ? some insights from an empirical analysis

Facing a huge fiscal burden due to imports of entire petroleum despite the availability of a surplus of agricultural land to produce biofuels, Zambia, a country in Sub-Saharan Africa, has recently introduced a biofuel mandate. But, a number of questions, particularly those related to the economics of biofuels, have not been fully investigated yet. Using an empirical model this study analyzes the economics of meeting the biodiesel mandate through soybean feedstock. The study finds that meeting the biodiesel mandate with biodiesel from soybeans would reduce social welfare because the country's soybean imports would cost more than the expected reduction in petroleum imports. However, if Zambia increases its domestic soybean supply along with its capacity to convert soybean to biodiesel, as well as oil yield, soybean based biodiesel is likely to be welfare-beneficial, even if biodiesel prices are above diesel prices. The study also finds that under current market prices and transportation costs and constraints, the same amount of biodiesel can be produced most cost-effectively with a tax exemption. A blend mandate would be less cost effective, while a biodiesel production subsidy represents the least efficient policy option.

Are biofuels economically competitive with their petroleum counterparts ?production cost analysis for Zambia

With increased global interest in biofuels, Zambia, a Sub-Saharan African country that entirely depends on imports for its petroleum supply, is planning to implement blending mandates for biofuels. But, a large number of issues -- including production costs of biofuels, land requirements to meet the mandates, and environmental benefits -- have not yet been explored. This study aims to contribute in filling this gap. It finds that depending on feedstock type, costs of ethanol production range from US\$0.360 a liter to US\$0.680 a liter while the costs for biodiesel production range from US\$0.612 a liter to US\$0.952 a liter. Even if lower energy contents of biofuels are taken into account, the analysis shows that biofuels are cheaper than their petroleum counterparts. Considering the cost advantage of these biofuels over petroleum products and the availability of surplus agricultural land, Zambia is likely to benefit from the development of a biofuel industry. Biofuels is expected to reduce Zambia's petroleum import bill, which currently stands at more than US\$700 million, enhance food security by providing incentives to increase yields, and increase affordability and accessibility to modern energy in the country where 77 percent of the population still lacks access to modern energy. It could also stimulate rural employment and development.

Macroeconomic and distributional impacts of jatropha-based biodiesel in Mali

Mali, a landlocked West African nation at the southern edge of the Sahara Desert, has introduced a program to produce biodiesel using *jatropha curcas*, a non-edible shrub widely available throughout the country by farmers for generations as a living fence for their gardens. The aim of the program is to partially substitute diesel, which is entirely supplied through imports, with domestic biodiesel produced from a feedstock that does not have any commercial value otherwise and thus has zero opportunity cost. This paper uses a computable general equilibrium model to investigate economy-wide and distributional impacts of large-scale *jatropha* production on different types of lands, and conversion of *jatropha* oil to biodiesel for domestic consumption. It assesses impacts on agricultural and other commodity markets, resource and factor markets, and international trade. The results are fed into a detailed household survey-based micro-simulation model to assess impacts on poverty and income distribution. The study finds that the expansion of *jatropha* farming would be beneficial in terms of both macroeconomic and distributional impacts as long as idle lands, which have been neither used for agriculture nor protected as forests, are utilized. However, if *jatropha* plantation is carried out on existing agriculture lands, the economy-wide impacts would be negative although it would still help reduce rural poverty.

Climate change in the Himalayas : current state of knowledge

This paper reviews the literature on the potential biophysical and economic impacts of climate change in the Himalayas. Existing observations indicate that the temperature is rising at a higher rate in Nepal and Chinese regions of the Himalayas compared with rest of the Himalayas. A declining trend of monsoon in the western Indian Himalayas and an increasing trend in the eastern Indian Himalayas have been observed, whereas increasing precipitation and stream flow in many parts of Tibetan Plateau are noted. Glaciers in both the eastern and western Himalayas are mostly retreating, but the majority of the glaciers in Karakorum are either stable or advancing slowly. Expansion of glacier lakes is reported, with the highest rate in Nepal and Bhutan. Most literature predicts increases in temperature and monsoon precipitations and decreases in winter precipitations in the future thereby leading to monsoon flooding and increased sediments in stream flow. Available hydrological simulations indicate reduced rainfall and shrinkage of glacier thereby leading to shortage of water supply for power generation and irrigation in winter particularly in highly glaciated basins. Projected economic impacts of glacial lake outburst floods can be substantial on the developed river basin with infrastructures and population centers. However, there is a clear gap in knowledge of economic impacts of climate change in the Himalayas.

A "greenprint" for international cooperation on climate change

International negotiations on climate change have been dogged by mutual recriminations between rich and poor countries, constricted by the zero-sum arithmetic of a shrinking global carbon budget, and overtaken by shifts in economic power between industrialized and developing countries. To overcome these "narrative," "adding-up," and "new world" problems, respectively, this paper proposes a new Greenprint for cooperation. First, the large dynamic emerging economies -- China, India, Brazil, and Indonesia -- must assume the mantle of leadership, offering contributions of their own and prodding the reluctant industrial countries into action. This role reversal would be consistent with the greater stakes for the dynamic emerging economies. Second, the emphasis must be on technology generation. This would allow greater consumption and production possibilities for all countries while respecting the global emissions budget that is dictated by the climate change goal of keeping average temperature rise below 2 degrees centigrade. Third, instead of the old cash-for-cuts approach -- which relies on the industrial countries offering cash (which they do not have) to the dynamic emerging economies for cuts (that they are unwilling to make) -- all major emitters must make contributions. With a view to galvanizing a technology revolution, industrial countries would take early action to raise carbon prices. The dynamic emerging economies would in turn eliminate fossil fuel subsidies, commit to matching carbon price increases in the future, allow limited border taxes against their own exports, and strengthen protection of intellectual property for green technologies. This would directly and indirectly facilitate such a technological revolution.

Gender Equality

Land market restrictions, women's labor force participation, and wages in a rural economy

This paper analyzes the effects of land market restrictions on the rural labor market outcomes for women. The existing literature emphasizes two mechanisms through which land restrictions can affect the economic outcomes: the collateral value of land, and (in) security of property rights. Analysis of this paper focuses on an alternative mechanism where land restrictions increase costs of migration out of villages. The testable prediction of collateral effect is that both wages and labor force participation move in the same direction, and insecurity of property rights reduces labor force participation and increases wages. In contrast, if land restrictions work primarily through higher migration costs, labor force participation increases, while wages decline. For identification, this paper exploits a natural experiment in Sri Lanka where historical malaria played a unique role in land policy. This paper provides robust evidence of a positive effect of land restrictions on women's labor force participation, but a negative effect on female wages. The empirical results thus contradict a collateral or insecure property rights effect, but support migration costs as the primary mechanism.

Formalizing rural land rights in West Africa : early evidence from a randomized impact evaluation in Benin

This paper presents early evidence from the first large-scale randomized-controlled trial of a land formalization program. The study examines the links between land demarcation and investment in rural Benin in light of a model of agricultural production under insecure tenure. The demarcation process involved communities in the mapping and attribution of land rights; cornerstones marked parcel boundaries and offered lasting landmarks. Consistent with the model, improved tenure security under demarcation induces a shift toward long-term investment on treated parcels. This investment does not yet coincide with gains in agricultural productivity. The analysis also identifies significant gender-specific effects. Female-managed landholdings in treated villages are more likely to be left fallow—an important soil fertility investment. Women further respond to an exogenous tenure security change by moving production away from relatively secure, demarcated land and toward less secure land outside the village to guard those parcels.

Pronatal property rights over land and fertility outcomes : evidence from a natural experiment in Ethiopia

This study exploits a natural experiment to investigate the impact of land reform on the fertility outcomes of households in rural Ethiopia. Public policies and customs created a situation where Ethiopian households could influence their usufruct rights to land via a demographic expansion of the family. The study evaluates the impact of the abolishment of these pronatal property rights on fertility outcomes. By matching aggregated census data before and after the reform with administrative data on the reform, a difference-in-differences approach between reform and non-reform districts is used to assess the impact of the reform on fertility outcomes. The impact appears to be large. The study estimates that women in rural areas reduced their life-time fertility by 1.2 children due to the reform. Robustness checks show that the impact estimates are not biased by spillovers or policy endogeneity.

The impact of secondary schooling in Kenya : a regression discontinuity analysis

This paper estimates the impacts of secondary school on human capital, occupational choice, and fertility for young adults in Kenya. The probability of admission to government secondary school rises sharply at a score close to the national mean on a standardized 8th grade examination, permitting the estimation of causal effects of schooling in a regression discontinuity framework. The analysis combines administrative test score data with a recent survey of young adults to estimate these impacts. The results show that secondary schooling increases human capital, as measured by performance on cognitive tests included in the survey. For men, there is a drop in the probability of low-skill self-employment, as well as suggestive evidence of a rise in the probability of formal employment. The opportunity to attend secondary school also reduces teen pregnancy among women.

Women left behind ? poverty and headship in Africa

This paper is motivated by two stylized facts about poverty in Africa: female-headed households tend to be poorer, and poverty has been falling in the aggregate since the 1990s. These facts raise two questions: How have female-headed households fared? And what role have they played in Africa's impressive recent aggregate growth and poverty reduction? Using data covering the entire region, the paper reexamines the current prevalence and characteristics of female-headed households, and asks whether their prevalence has been rising over time, what factors have been associated with such changes since the mid-1990s, and whether poverty has fallen equi-proportionately for male- and female-headed households. Rising gross domestic product has dampened rising female headship. However, other subtle transformations occurring across Africa—changes in marriage behavior, family formation, health, and education—have put upward pressure on female headship, with the result that the share of female-headed households has been growing. This has been happening alongside declining aggregate poverty incidence. However, rather than being left behind, female-headed households have generally seen faster poverty reduction. As a whole, this group has contributed almost as much to the reduction in poverty as male-headed households, despite the smaller share of female-headed households in the population.

Smallholders' land ownership and access in Sub-Saharan Africa: a new landscape ?

While scholars agree on the importance of land rental markets for structural transformation in rural areas, evidence on the extent and nature of their operation, including potential obstacles to their improved functioning, remains limited. This study uses household-level data from six countries to start filling this gap and derive substantive as well as methodological lessons. The paper finds that rental markets transfer land to land-poor, labor-rich, and more productive producers throughout. But vast cross-country variation in transfers and the fact that female managers could possibly improve their income by leasing out land point towards barriers to participation that policy might address. Methodological and substantive conclusions are derived.

Investigating the gender gap in agricultural productivity : evidence from Uganda

Women comprise 50 percent of the agricultural labor force in Sub-Saharan Africa, but manage plots that are reportedly on average 20 to 30 percent less productive. As a source of income inequality and aggregate productivity loss, the country-specific magnitude and drivers of this gender gap are of great interest. Using national data from the Uganda National Panel Survey for 2009/10 and 2010/11, the gap before controlling for endowments was estimated to be 17.5 percent. Panel data methods were combined with an Oaxaca decomposition to investigate the gender differences in resource endowment and return to endowment driving this gap. Although men have greater access to inputs, input use is so low and inverse returns to plot size so strong in Uganda that smaller female-managed plots have a net endowment advantage of 12 percent, revealing a larger unexplained gap of 29.5 percent. Two-fifths of this unexplained gap is attributed to differential returns to the child dependency ratio and one-fifth to differential returns to transport access, implying that greater child care responsibilities and difficulty accessing input and output markets from areas without transport are the largest drivers of the gap. Smaller and less robust drivers include differential uptake of cash crops, and differential uptake and return to improved seeds and pesticides.

Are women less productive farmers ? how markets and risk affect fertilizer use, productivity, and measured gender effects in Uganda

African governments and international development groups see boosting productivity on smallholder farms as key to reducing rural poverty and safeguarding the food security of farming and non-farming households. Prompting smallholder farmers to use more fertilizer has been a key tactic. Closing the productivity gap between male and female farmers has been another avenue toward achieving the same goal. The results in this paper suggest the two are related. Fertilizer use and maize yields among smallholder farmers in Uganda are increased by improved access to markets and extension services, and reduced by ex ante risk-mitigating production decisions. Standard ordinary least squares regression results indicate that gender matters as well; however, the measured productivity gap between male and female farmers disappears when gender is included in a list of determinants meant to capture the indirect effects of market and extension access.

Behavioral economics and social exclusion : can interventions overcome prejudice ?

Behavioral economics recognizes that mental models -- intuitive sets of ideas about how things work -- can bias an individual's perceptions of himself and the world. By representing an ascriptive category of people as unworthy, a mental model can foster unjust social exclusion of, for example, a race, gender, caste, or class. Since the representation is a social construction, shouldn't society be able to control it? But how? This paper considers three interventions that have had some success in developing countries: (1) Group deliberation in Senegal challenged the traditional mental model of female genital cutting and contributed to the abandonment of the practice; (2) political reservations for women and low castes in India improved the way men perceived women, the way parents perceived their daughters, and the way women perceived themselves, but have not generally had positive effects on the low castes; and (3) reductions in the salience of identity closed performance gaps between dominant and stigmatized groups in experiments in India and China. Spoiled collective identities need to be changed or made less prominent in order to overcome social exclusion.

The price of empowerment : experimental evidence on land titling in Tanzania

This paper reports on a randomized field experiment that uses price incentives to address economic and gender inequality in land tenure formalization. During the 1990s and 2000s, nearly two dozen African countries proposed de jure land reforms extending access to formal, freehold land tenure to millions of poor households. Many of these reforms stalled. Titled land remains the de facto preserve of wealthy households and, within households, men. Beginning in 2010, the study tested whether price instruments alone can generate greater inclusion by offering formal titles to residents of a low-income, unplanned settlement in Dar es Salaam at a range of subsidized prices, as well as additional price incentives to include women as owners or co-owners of household land. Estimated price elasticities of demand confirm that prices -- rather than other implementation failures or features of the titling regime -- are a key obstacle to broader inclusion in the land registry, and that some degree of pro-poor price discrimination is justified even from a narrow budgetary perspective. In terms of gender inequality, the study finds that even small price incentives for female co-titling achieve almost complete gender parity in land ownership with no reduction in demand

Son preference, fertility and family structure : evidence from reproductive behavior among Nigerian women

Strong boy-bias and its consequences for young and unborn girls have been widely documented for Asia. This paper considers a country in Sub-Saharan Africa and finds that parental gender preferences do affect fertility behavior and shape traditional social institutions with negative effects on adult women's health and well-being. Using individual-level data for Nigeria, the paper shows that, compared to women with first-born sons, women with first-born daughters have (and desire) more children and are less likely to use contraceptives. Women with daughters among earlier-born children are also more likely to have shorter birth intervals, a behavior medically known to increase the risk of child and maternal mortality. Moreover, they are more likely to end up in a polygynous union, to be divorced, and to be head of the household. The preference for sons is also supported by child fostering patterns in which daughters are substitutes for foster girls, while the same does not hold for sons and foster boys. These results can partly explain excess female mortality among adult women in Sub-Saharan Africa.

Strengthening economic rights and women's occupational choice : the impact of reforming Ethiopia's family law

This paper evaluates the impact of strengthening legal rights on the types of economic opportunities that are pursued. Ethiopia changed its family law, requiring both spouses' consent in the administration of marital property, removing the ability of a spouse to deny permission for the other to work outside the home, and raising women's minimum age of marriage. Thus both access to resources and the removal of restrictions on employment served to strengthen women's bargaining position within the household and their ability to pursue economic opportunities. Although this reform now applies nationally, it was initially rolled out in the two chartered cities and three of Ethiopia's nine regions. Using nationally representative household surveys from just prior to the reform and five years later allows for a difference-in-difference estimation of the reform's impact. The analysis finds that women were relatively more likely to work in occupations that require work outside the home, employ more educated workers, and in paid and full-time jobs where the reform had been enacted, controlling for time and location effects. As the relative increase in women's participation in these activities was 15-24 percent higher in areas where the reform was carried out, the magnitude of the impact is significant too.

Foreign wage premium, gender and education : insights from Vietnam household surveys

This paper investigates the differential impacts of foreign ownership on wages for different types of workers (in terms of educational background and gender) in Vietnam using the Vietnam Household Living Standards Surveys of 2002 and 2004. Whereas most previous studies have compared wage levels between foreign and domestic sectors using firm-level data (thus excluding the informal sector), one advantage of using the Living Standards Surveys in this paper is that the data allow wage comparison analyses to extend to the informal wage sector. A series of Mincerian earnings equations and worker-specific fixed effects models are estimated. Several findings emerge. First, foreign firms pay higher wages relative to their domestic counterparts after controlling for workers' personal characteristics. Second, the higher the individual workers' levels of education, the larger on average are the wage premiums for those who work for foreign firms. Third, longer hours of work in foreign firm jobs relative to working in the informal wage sector are an important component of the wage premium. Finally, unskilled women experience a larger foreign wage premium than unskilled men, reflecting the low earning opportunities for women and a higher gender gap in the informal wage sector.

Governance, Institution Building, and Fragility

The impact of violence on individual risk preferences : evidence from a natural experiment

This study estimates the impact of Kenya's post-election violence on individual risk preferences. Because the crisis interrupted a longitudinal survey of more than five thousand Kenyan youth, this timing creates plausibly exogenous variation in exposure to civil conflict by the time of the survey. The study measures individual risk preferences using hypothetical lottery choice questions, which are validated by showing that they predict migration and entrepreneurship in the cross-section. The results indicate that the post-election violence sharply increased individual risk aversion. Immediately after the crisis, the fraction of subjects who are classified as either risk neutral or risk loving dropped by roughly 26 percent. The findings remain robust to an IV estimation strategy that exploits random assignment of respondents to waves of surveying.

Civil conflict and firm performance : evidence from Cote d'Ivoire

This paper investigates the impact of political instability and civil conflict on firms. It studies the unrest in Cote d'Ivoire that began in 2000, using a census of all registered firms for the years 1998-2003. The analysis uses structural estimates of the production function and exploits spatial variations in conflict intensity to derive the cost of conflict on firms in terms of productivity loss. The results indicate that the conflict led to an average 16-23 percent drop in firm total factor productivity and the decline is 5-10 percentage points larger for firms that are owned by or employing foreigners. These results are consistent with anecdotal evidence of increasing violent attacks and looting of foreigners and their businesses during the conflict. The results suggest increases in operating costs is a possible channel driving this impact. Finally, the paper investigates whether firms responded by hiring fewer foreign workers and finds evidence supporting this hypothesis

Blue water and the consequences of alternative food security policies in the Middle East and North Africa for water security

In the Middle East and North Africa, food security and water security are tightly entwined. In particular, choices about the extent to which food security policies rely on trade rather than domestically produced staples have stark consequences for the region's limited water resources. This paper builds on previous modeling results comparing the cost and benefits of policies to protect consumers against surging international wheat prices, and expands the analysis to consider the consequences of the policies for water resources. A self-sufficiency policy is analyzed as well. Results suggest that trade-based food security policies have no significant effect on the sustainability of water resources, while the costs of policies based on self-sufficiency for water resources are high. The analysis also shows that while information about the water footprint of alternative production systems is helpful, a corresponding economic footprint that fully measures the resource cost of water is needed to concisely rank alternative policies in economic terms that are consistent with sustainable outcomes.

Eliciting illegal migration rates through list randomization

Most migration surveys do not ask about the legal status of migrants due to concerns about the sensitivity of this question. List randomization is a technique that has been used in a number of other social science applications to elicit sensitive information. This paper trials this technique by adding it to surveys conducted in Ethiopia, Mexico, Morocco, and the Philippines. It shows how, in principal, this can be used both to give an estimate of the overall rate of illegal migration in the population being surveyed, as well as to determine illegal migration rates for subgroups such as more or less educated households. The results suggest that there is some useful information in this method: higher rates of illegal migration in countries where illegal migration is thought to be more prevalent and households who say they have a migrant are more likely to report having an illegal migrant. Nevertheless, some of the other findings also suggest some possible inconsistencies or noise in the conclusions obtained using this method. The authors suggest directions for future attempts to implement this approach in migration surveys

Promoting democracy in fragile states : insights from a field experiment in Liberia

A field experiment in rural Liberia is used to study democratic participation in fragile states. Fragile states are marked by political fragmentation, local patronage systems, and voter vulnerability. To understand the effects of such conditions on democratic expression through elections, the experiment introduced new forms of interaction between rural citizens and third-party actors: (i) civic education and town hall workshops directed by non-governmental organizations in communities over nine months and (ii) security committees that brought rural community representatives into monthly exchange with United Nations peacekeepers. Civic education workshops increased enthusiasm for electoral participation, produced a coordinated shift from parochial to national candidates, and increased willingness to report on manipulation. A program combining the two interactions had similar effects. The security committees had negligible effects. Barriers to political information and voter coordination appear to be important but resolvable problems for elections in fragile states.

Party age and party color : new results on the political economy of redistribution and inequality

This paper advances research on inequality with unique, new data on income distribution in 61 countries, including 20 Latin American countries, to explore the effects of political parties on redistribution. First, consistent with a central -- but still contested -- assumption of the political economy literature, left-wing governments redistribute more. In addition, consistent with recent research on the importance of party organization and the organizational differences between younger and older parties, older left-wing parties are more likely to internalize the long-run costs of redistribution and to be more credible in their commitment to redistribution, leading them to redistribute less. With entirely different data, the paper also provides evidence on mechanisms: left-wing governments not only redistribute more, they tax more; older left-wing parties, though, tax less than younger ones.

Economic Transformation and Jobs

Large farm establishment, smallholder productivity, labor market participation, and resilience : evidence from Ethiopia

Although the nature and magnitude of (positive or negative) spillovers from large farm establishment are hotly debated, most evidence relies on case studies. Ethiopia's large farms census together with 11 years of nation-wide smallholder surveys allows examination and quantification of spillovers using intertemporal changes in smallholders' proximity and exposure to large farms, generally or growing the same crop, for identification. The results suggest positive spillovers on fertilizer and improved seed use, yields, and risk coping, but not local job creation, for some crops, most notably maize. Most spillovers are crop-specific and limited to large farms' immediate vicinity. The implications for policy and research are drawn out.

Do land market restrictions hinder structural change in a rural economy ? evidence from Sri Lanka

This paper analyzes the effects of land market restrictions on structural change from agriculture to non-farm in a rural economy. This paper develops a theoretical model that focuses on higher migration costs due to restrictions on alienability, and identifies the possibility of a reverse structural change where the share of nonagricultural employment declines. The reverse structural change can occur under plausible conditions: if demand for the non-agricultural good is income-inelastic (assuming the non-farm good is non-tradable), or non-agriculture is less labor intensive relative to agriculture (assuming the non-farm good is tradable). For identification, this paper exploits a natural experiment in Sri Lanka where historical malaria played a unique role in land policy. The empirical evidence indicates significant adverse effects of land restrictions on manufacturing and services employment, rural wages, and per capita household consumption. The evidence on the disaggregated occupational choices suggests that land restrictions increase wage employment in agriculture, but reduce it in manufacturing and services, with no perceptible effects on self-employment in non-agriculture. The results are consistent with the migration costs model, but contradict two widely discussed alternative mechanisms: collateral effect and property rights insecurity. This paper also provides direct evidence in favor of the migration costs mechanism.

Regionalism in services : a study of ASEAN

Can regionalism do what multilateralism has so far failed to do—promote greater openness of services markets? Although previous research has pointed to the wider and deeper legal commitments under regional agreements as proof that it can, no previous study has assessed the impact of such agreements on applied policies. This paper focuses on the Association of Southeast Asian Nations (ASEAN), where regional integration of services markets has been linked to thriving regional supply chains. Drawing on surveys conducted in 2008 and 2012 of applied policies in the key services sectors of ASEAN countries, the paper assesses the impact of the ASEAN Framework Agreement on Services (AFAS) and the ambitious ASEAN Economic Community Blueprint, which envisaged integrated services markets by 2015. The analysis finds that over this period, ASEAN did not integrate faster internally than vis-à-vis the rest of the world: policies applied to trade with other ASEAN countries were virtually the same as those applied to trade with rest of the world. Moreover, the recent commitments scheduled under AFAS did not produce significant liberalization and, in a few instances, services trade policy actually became more restrictive. The two exceptions are in areas that are not on the multilateral negotiating agenda: steps have been taken toward creating regional open skies in air transport, and a few mutual recognition agreements have been negotiated in professional services. These findings suggest that regional negotiations add the most value when they are focused on areas that are not being addressed multilaterally.

Quantifying spillover effects from large farm establishments : the case of Mozambique

Almost a decade after large land-based investment for agriculture increased sharply, opinions on its impact continue to diverge, partly because (positive or negative) spillovers on neighboring smallholders have never been rigorously assessed. Applying methods from the urban literature on Mozambican data suggests that changes in the number and area of large farms within 25 or 50 kilometers of these investments raised use of improved practices, animal traction, and inputs by small farmers without increasing cultivated area or participation in output, credit, and nonfarm labor markets; or, once these factors are controlled for, yields. The limited scope and modest size of the estimated benefits point toward considerable unrealized potential. The paper discusses ways to systematically explore the size of such potential and the extent to which it is realized.

The impact of secondary schooling in Kenya : a regression discontinuity analysis

This paper estimates the impacts of secondary school on human capital, occupational choice, and fertility for young adults in Kenya. The probability of admission to government secondary school rises sharply at a score close to the national mean on a standardized 8th grade examination, permitting the estimation of causal effects of schooling in a regression discontinuity framework. The analysis combines administrative test score data with a recent survey of young adults to estimate these impacts. The results show that secondary schooling increases human capital, as measured by performance on cognitive tests included in the survey. For men, there is a drop in the probability of low-skill self-employment, as well as suggestive evidence of a rise in the probability of formal employment. The opportunity to attend secondary school also reduces teen pregnancy among women.

Gold mining and proto-urbanization : recent evidence from Ghana

Central place theory predicts that agglomeration can arise from external shocks. This paper investigates whether gold mining is a catalyst for proto-urbanization in rural Ghana. Using cross-sectional data, the analysis finds that locations within 10 kilometers from gold mines have more night light and proportionally higher employment in industry and services and in the wage sector. Non-farm employment decreases at 20–30 kilometers distance to gold mines. These findings are consistent with agglomeration effects that induce non-farm activities to coalesce in one particular location. This paper finds that, over time, an increase in gold production is associated with more wage employment and apprenticeship, and fewer people employed in private informal enterprises. It also finds that the changes arising from increasing gold production are not reversed when large gold mines shrink. However this pattern cannot be ascribed unambiguously to agglomeration effects, given an increase in informal mining after formal mines decrease output is also observed.

How much could South Asia benefit from regional electricity cooperation and trade ?

The South Asia region is lagging behind many regions in the world in regional electricity cooperation and trading, despite the huge anticipated benefits. This study uses an electricity planning model that produces optimal expansion of electricity generation capacities and transmission interconnections in the long-term to quantify the benefits of unrestricted cross-border electricity trade in the South Asia during 2015–40. The study finds that the unrestricted electricity trade provision would save US\$226 billion (US\$9 billion per year) of electricity supply costs over the period. The ratio of the present value of benefits, in the form of reduction of fuel costs, to the present value of increased costs due to generation and interconnection would be 5.3. The provision would reduce regional power sector carbon dioxide emissions by 8 percent, mainly because of substitution of coal-based generation with hydro-based generation, although regional emissions would be well above current levels absent other policy interventions. To achieve these benefits, the region is estimated to add 95,000 megawatts of new cross-border transmission interconnection capacity.

Crop choice and infrastructure accessibility in Tanzania : subsistence crops or export crops ?

Africa has great potential for agriculture. Although international commodity prices have been buoyant, Africa's supply response seems to be weak. A variety of constraints may exist. Using the case of Tanzania, the paper examines the impact of market connectivity, domestic and international, on farmers' crop choices. It is shown that the international market connectivity, measured by transport costs to the maritime port, is important for farmers to choose export crops, such as cotton and tobacco. Internal connectivity to the domestic market is also found to be important for growing food crops, such as maize and rice. Among other inputs, access to irrigation and improved seed availability are also important factors in the crop choices of farmers. The size of land area is one constraint to promote the crop shift. The paper also reports the finding that farmers are not using market prices effectively in their choice of crop, even after the endogeneity of local prices is taken into account.

Firms' locational choice and infrastructure development in Tanzania : instrumental variable spatial autoregressive model

Agglomeration economies are among the most important factors in increasing firm productivity. However, there is little evidence supportive of this in Africa. Using the firm registry database in Tanzania, this paper examines a new application of the logit approach with two empirical issues taken into account: spatial autocorrelation and endogeneity of infrastructure placement. The paper finds significant agglomeration economies. It is also found that firms are more likely to be located where local connectivity and access to markets are good. The paper finds that dealing with infrastructure endogeneity and spatial autocorrelation in the empirical model is important. According to the exogeneity test, infrastructure variables are likely endogenous. The spatial autoregressive term is significant. As expected, therefore, there are positive externalities of firm location choice around the neighboring areas.

Do capital inflows boost growth in developing countries ? evidence from Sub-Saharan Africa

This paper examines whether domestic output growth helps attract capital inflows and, in turn, capital inflows help boost output growth in a set of 38 Sub-Saharan African countries. Using a two-step approach to address reverse causality and omitted variable issues, the paper finds that output growth in countries in Sub-Saharan Africa does not attract capital inflows. However, aid and foreign direct investment inflows enhance growth, while sovereign debt inflows do not. A 1 percent increase in the level of real aid inflows raises growth of real output per capita by 0.022 percentage point. For foreign direct investment inflows, the figure is 0.002 percentage point.

Smallholders' land ownership and access in Sub-Saharan Africa: a new landscape ?

While scholars agree on the importance of land rental markets for structural transformation in rural areas, evidence on the extent and nature of their operation, including potential obstacles to their improved functioning, remains limited. This study uses household-level data from six countries to start filling this gap and derive substantive as well as methodological lessons. The paper finds that rental markets transfer land to land-poor, labor-rich, and more productive producers throughout. But vast cross-country variation in transfers and the fact that female managers could possibly improve their income by leasing out land point towards barriers to participation that policy might address. Methodological and substantive conclusions are derived.

Investigating the gender gap in agricultural productivity : evidence from Uganda

Women comprise 50 percent of the agricultural labor force in Sub-Saharan Africa, but manage plots that are reportedly on average 20 to 30 percent less productive. As a source of income inequality and aggregate productivity loss, the country-specific magnitude and drivers of this gender gap are of great interest. Using national data from the Uganda National Panel Survey for 2009/10 and 2010/11, the gap before controlling for endowments was estimated to be 17.5 percent. Panel data methods were combined with an Oaxaca decomposition to investigate the gender differences in resource endowment and return to endowment driving this gap. Although men have greater access to inputs, input use is so low and inverse returns to plot size so strong in Uganda that smaller female-managed plots have a net endowment advantage of 12 percent, revealing a larger unexplained gap of 29.5 percent. Two-fifths of this unexplained gap is attributed to differential returns to the child dependency ratio and one-fifth to differential returns to transport access, implying that greater child care responsibilities and difficulty accessing input and output markets from areas without transport are the largest drivers of the gap. Smaller and less robust drivers include differential uptake of cash crops, and differential uptake and return to improved seeds and pesticides.

Are women less productive farmers ? how markets and risk affect fertilizer use, productivity, and measured gender effects in Uganda

African governments and international development groups see boosting productivity on smallholder farms as key to reducing rural poverty and safeguarding the food security of farming and non-farming households. Prompting smallholder farmers to use more fertilizer has been a key tactic. Closing the productivity gap between male and female farmers has been another avenue toward achieving the same goal. The results in this paper suggest the two are related. Fertilizer use and maize yields among smallholder farmers in Uganda are increased by improved access to markets and extension services, and reduced by ex ante risk-mitigating production decisions. Standard ordinary least squares regression results indicate that gender matters as well; however, the measured productivity gap between male and female farmers disappears when gender is included in a list of determinants meant to capture the indirect effects of market and extension access.

The rise of China and labor market adjustments in Latin America

This paper assesses the impact of the rise of China on the trade of Latin American and Caribbean economies. The study proposes an index to measure the impact on trade, which suggests sizable effects, especially in Argentina, Brazil, Chile, Honduras, Mexico, and Paraguay. The paper uses the index and a model of labor mobility, to calculate the impact of China's growth on labor markets in Argentina, Brazil, and Mexico. The resulting evidence suggests that the rise of China has had positive effects on agriculture and mining in Argentina and Brazil, which offset negative impacts on manufacturing industries, thus leaving total employment and real wages virtually unchanged in the long run. In contrast, the estimated impacts of China's rise on Mexico imply that the sizable shock to manufacturing was not offset by the positive shocks on mining and agriculture, reducing employment in the long run. The paper also discusses the effect of China on the degree of informality in these three economies and contrasts short-run and long-run effects on employment and wages across industries.

Firm heterogeneity and costly trade: a new estimation strategy and policy experiments

This paper builds a tractable partial equilibrium model to help explain the role of trade preferences given to developing countries, as well as the efficacy of various subsidy policies. The model allows for firm level heterogeneity in demand and productivity and lets the mass of firms that enter be endogenous. Trade preferences given by one country have positive spillovers on exports to others in this model. Preferences given by the European Union to Bangladesh in an industry raise profits, resulting in entry, and some of these firms also export to the United States. The parameters of the model are estimated using cross sectional customs data on Bangladeshi exports of apparel to the United States and European Union. Counterfactual experiments regarding the effects of reducing costs, both fixed and marginal, or of trade preferences offered by an importing country are performed. The counterfactuals show that reducing fixed costs at various levels has very different effects and suggest that such reductions are more effective in promoting exports when applied at later stages when firms are more committed to production. A subsidy of 1.5 million dollars to industry entry costs raises exports by only 0.4 dollars for every dollar spent, but when applied to fixed costs of production, it raises exports by \$25 per dollar spent.

Short-term impacts of formalization assistance and a bank information session on business registration and access to finance in Malawi

Despite regulatory efforts designed to make it easier for firms to formalize, informality remains extremely high among firms in Sub-Saharan Africa. In most of the region, business registration in a national registry is separate from tax registration. This paper provides initial results from an experiment in Malawi that randomly allocated firms into a control group and three treatment groups: a) a group offered assistance for costless business registration; b) a group offered assistance with costless business registration and (separate) tax registration; and c) a group offered assistance for costless business registration along with an information session at a bank that ended with the offer of business bank accounts. The study finds that all three treatments had extremely large impacts on business registration, with 75 percent of those offered assistance receiving a business registration certificate. The findings offer a cost-effective way of getting firms to formalize in this dimension. However, in common with other studies, information and assistance has a limited impact on tax registration. The paper measures the short-term impacts of formalization on financial access and usage. Business registration alone has no impact for either men or women on bank account usage, savings, or credit. However, the combination of formalization assistance and the bank information session results in significant impacts on having a business bank account, financial practices, savings, and use of complementary financial products.

Agricultural productivity, hired labor, wages and poverty : evidence from Bangladesh

This paper provides evidence on the effects of agricultural productivity on wage rates, labor supply to market oriented activities, and labor allocation between own farming and wage labor in agriculture. To guide the empirical work, this paper develops a general equilibrium model that underscores the role of reallocation of family labor engaged in the production of non-marketed services at home ('home production'). The model predicts positive effects of a favorable agricultural productivity shock on wages and income, but the effect on hired labor is ambiguous; it depends on the strength of reallocation of labor from home to market production by labor surplus and deficit households. Taking rainfall variations as a measure of shock to agricultural productivity, and using subdistrict level panel data from Bangladesh, this paper finds significant positive effects of a favorable rainfall shock on agricultural wages, labor supply to market work, and per capita household expenditure. The share of hired labor in contrast declines substantially in response to a favorable productivity shock, which is consistent with a case where labor-deficit households respond more than the labor-surplus ones in reallocating labor from home production.

Radio frequency (un)identification : results from a proof-of-concept trial of the use of RFID technology to measure microenterprise turnover in Sri Lanka

Accurate measurement of stock levels, turnover, and profitability in microenterprises in developing countries is difficult because the majority of these firms do not keep detailed records. This paper tests the use of radio frequency identification tags as a means of objectively measuring stock levels and stock flow in small retail firms in Sri Lanka. In principle, the tags offer the potential to track stock movements accurately. The paper compares the stock counts obtained from RFID reads to physical stock counts and to survey responses. There are three main findings. First, current RFID-technology is more difficult to use, and more time-consuming to employ, than had been envisaged. Second, the technology works reasonably well for paper products, but very poorly for most products sold by microenterprises: on average only about one-quarter of the products tagged could be read and there was considerable day-to-day variation in read-efficiency. Third, a comparison of survey responses and physical stock-takes shows much higher accuracy for survey measures. As a result, the study concludes that this technology is currently unsuitable for improving stock measurement in microenterprises, except perhaps for a few products.

SME finance in Africa

This paper uses cross-country firm-level surveys to gauge access to financial services and the importance of financing constraints for African enterprises. The paper compares access to finance in Africa and other developing regions of the world, within Africa across countries, and across different groups of firms. It relates firms' access to finance to firm and banking system characteristics and discusses policy challenges.

Benchmarking the financial performance, growth, and outreach of greenfield microfinance institutions in Sub-Saharan Africa

In recent years there has been a rapid increase in the presence and growth of greenfield microfinance institutions in Sub-Saharan Africa. This paper uses regressions to benchmark those African greenfields relative to other microfinance providers and finds that greenfields grew faster in terms of deposits and lending, improved their profitability to levels comparable to the top microfinance institutions, and substantially increased their lending to women. The effects were especially strong for greenfields that followed a consultant-led model to establish a deep retail banking presence spanning multiple countries, including the creation of extensive branch networks. Although their loan sizes are somewhat larger than those of most African microfinance institutions, indicating less outreach to the poorest market segments, greenfields have achieved rapid gains in financial inclusion on a broad scale.

Seeing is believing ? evidence from an extension network experiment

Extension services are a keystone of information diffusion in agriculture. This paper exploits a large randomized controlled trial to track diffusion of a new technique in the classic Training and Visit (T&V) extension model, relative to a more direct training model. In both control and treatment communities, contact farmers (CFs) serve as points-of-contact between agents and other farmers. The intervention (Treatment) aims to address two pitfalls of the T&V model: i) infrequent extension agent visits, and ii) poor quality information. Treatment CFs receive a direct, centralized training. Control communities are exposed to the classic T&V model. Information diffusion was tracked through two nodes: from agents to CFs, and from CFs to others. Directly training CFs leads to large gains in information diffusion and adoption, and CFs learn by doing. Diffusion to others is limited: other males adopt the technique perceived as labor saving, with an effect size of 75 percent.

Open skies over the Middle East

The dynamism of air traffic markets in the Middle East obscures the persistence of restrictions on international competition. But how important are such restrictions for passenger traffic? This paper uses detailed data on worldwide passenger aviation to estimate the effect of air transport policy on international air traffic. The policy variable is a quantitative measure of the commitments under international agreements. The paper analyzes, for the first time, not only bilateral agreements, but also plurilateral agreements such as the one between Arab states. The analysis finds that more liberal policy is associated with greater passenger traffic between countries. Higher traffic levels appear to be driven primarily by larger numbers of city pairs being served, rather than by more passengers traveling along given routes. To demonstrate the quantitative implication of the estimates, two liberalization scenarios in the Middle East are evaluated. Deepening the plurilateral agreement among Arab states would lead to a 30 percent increase in intraregional passenger traffic. Widening the agreement to include Turkey would generate significantly larger gains because current policy vis-à-vis Turkey is much more restrictive

Does institutional finance matter for agriculture ? evidence using panel data from Uganda

Smallholder agriculture in many developing countries has remained largely self-financed. However, improved productivity for attaining greater food security requires better access to institutional credit. Past efforts to extend institutional credit to smaller farmers has failed for several reasons, including subsidized operation of government-aided credit schemes. Thus, recent efforts to expand credit for smallholder agriculture that rely on innovative credit delivery schemes at market prices have received much policy interest. However, thus far the impacts of these efforts are not fully understood. This study examines credit for smallholder agriculture in the context of Uganda, where agriculture is about 35 percent of gross domestic product, most farmers are smallholders, and the country has introduced policies since 2005 to extend credit access to the sector. The analysis uses newly available household panel data from Uganda for 2005-2006 and 2009-2010 to examine (a) whether credit effectively targets agriculture, by examining determinants of borrowing across different sources; (b) agricultural and nonagricultural determinants of supply and demand credit constraints among non-borrowers; and (c) the effects of borrowing and credit constraints on household income, consumption, and agricultural outcomes. The analysis finds that although not many households report borrowing specifically for agriculture, credit is fungible and agricultural outcomes do substantially improve with institutional borrowing, particularly microcredit. Among non-borrowers, supply and demand credit constraints have fallen considerably over the period, particularly in rural areas. Access to institutions and infrastructure play a strong role in alleviating the negative effect of credit constraints on welfare outcomes, as well as determining the source of lending among borrowing households.

Money or ideas ? a field experiment on constraints to entrepreneurship in rural Pakistan

This paper identifies the relative importance of human and physical capital for entrepreneurship. A subset of rural microfinance clients were offered eight full time days of business training and the opportunity to participate in a loan lottery of up to Rs. 100,000 (USD 1,700), about seven times the average loan size. The study finds that business training increased business knowledge, reduced business failure, improved business practices and increased household expenditures by about \$40 per year. It also improved financial and labor allocation decisions. These effects are concentrated among male clients, however. Women improve business knowledge but show no improvements in other outcomes. A cost-benefit analysis suggests that business training was not cost-effective for the microfinance institution, despite having a positive impact on clients. This may explain why so few microfinance institutions offer training. Access to the larger loan, in contrast, had little effect, indicating that existing loan size limits may already meet the demand for credit for these clients.

Why don't poor countries do R&D ?

Using a global panel on research and development (R&D) expenditures, this paper documents that on average poor countries do far less R&D than rich as a share of GDP. This is arguably counter intuitive since the gains from doing the R&D required for technological catch up are thought to be very high and Griffith et al (2004) have documented that in the OECD returns increase dramatically with distance from the frontier. Exploiting recent advances in instrumental variables in a varying coefficient context we find that the rates of return follow an inverted U: they rise with distance to the frontier and then fall thereafter, potentially turning negative for the poorest countries. The findings are consistent with the importance of factors complementary to R&D, such as education, the quality of scientific infrastructure and the overall functioning of the national innovation system, and the quality of the private sector, which become increasingly weak with distance from the frontier and the absence of which can offset the catch up effect. China's and India's explosive growth in R&D investment trajectories in spite of expected low returns may be justified by their importing the complementary factors in the form of multinational corporations who do most of the patentable research

Engineers, Innovative Capacity and Development in the Americas

This paper offers the first evidence on the prevalence of a central actor in modern growth theory—the engineer. Using newly collected sub-national, and international data as well as historical case studies, it then argues that differences in innovative capacity, captured by the density of engineers and patents at the dawn of the Second Industrial Revolution, in fact, are important to explaining present income differences across US counties, states within countries, and between the US and Latin America. This remains the case after controlling for literacy, other higher order human capital, and demand side elements that might be confounded with engineering or patenting. Instrumenting engineering using the Land Grant Colleges program further limits remaining endogeneity. A 1 SD increase in engineers at the turn of the 20th century accounts for a 16 percent increase in US county income today, and patenting capacity contributes another 10 percent. This can partly explain why countries with similar levels of income in 1900, but ten fold differences in engineering density diverged in their growth trajectories over the next century.

Credit constraints, agricultural productivity, and rural nonfarm participation : evidence from Rwanda

Although the potentially negative impacts of credit constraints on economic development have long been discussed conceptually, empirical evidence for Africa remains limited. This study uses a direct elicitation approach for a national sample of Rwandan rural households to assess empirically the extent and nature of credit rationing in the semi-formal sector and its impact using an endogenous sample separation between credit-constrained and unconstrained households. Being credit constrained reduces the likelihood of participating in off-farm self-employment activities by about 6.3 percent while making participation in low-return farm wage labor more likely. Even within agriculture, elimination of all types of credit constraints in the semi-formal sector could increase output by some 17 percent. Two suggestions for policy emerge from the findings. First, the estimates suggest that access to information (education, listening to the radio, and membership in a farm cooperative) has a major impact on reducing the incidence of credit constraints in the semi-formal credit sector. Expanding access to information in rural areas thus seems to be one of the most promising strategies to improve credit access in the short term. Second, making it easy to identify land owners and transfer land could also significantly reduce transaction costs associated with credit access.

Is there a farm-size productivity relationship in African agriculture ? evidence from Rwanda

Whether the negative relationship between farm size and productivity that is confirmed in a large global literature holds in Africa is of considerable policy relevance. This paper revisits this issue and examines potential causes of the inverse productivity relationship in Rwanda, where policy makers consider land fragmentation and small farm sizes to be key bottlenecks for the growth of the agricultural sector. Nationwide plot-level data from Rwanda point toward a constant returns to scale crop production function and a strong negative relationship between farm size and output per hectare as well as intensity of labor use that is robust across specifications. The inverse relationship continues to hold if profits with family labor valued at shadow wages are used, but disappears if family labor is rather valued at village-level market wage rates. These findings imply that, in Rwanda, labor market imperfections, rather than other unobserved factors, seem to be a key reason for the inverse farm-size productivity relationship.

Risky business : political instability and greenfield foreign direct investment in the Arab world

Which foreign direct investments are most affected by political instability? Analysis of quarterly greenfield investment flows into countries in the Middle East and North Africa from 2003 to 2012 shows that adverse political shocks are associated with significantly reduced investment inflows in the non-resource tradable sectors. By contrast, investments in natural resource sectors and non-tradable activities appear insensitive to such shocks. Consistent with these patterns, the significant reduction in investment inflows in Arab Spring affected economies was starkest in the non-resource manufacturing sector. Political instability is thus associated with increased reliance on non-tradables and aggravated resource dependence. Conversely, how intensified political instability affects aggregate foreign direct investment is critically contingent on the initial sector composition of these flows.

Banking in Africa

This paper takes stock of the current state of banking systems across Sub-Saharan Africa and discusses recent developments including innovations that might help Africa leapfrog more traditional banking models. Using an array of different data, the paper documents that African banking systems are shallow but stable. African banks are well capitalized and over-liquid, but lend less to the private sector than banks in non-African developing countries. African enterprises and households are less likely to use financial services than their peers in other developing countries. The paper also describes a number of financial innovations across the continent that can help overcome different barriers to financial inclusion and have helped to expand the bankable and the banked population.

A conceptual model of incomplete markets and the consequences for technology adoption policies in Ethiopia

In Africa, farmers have been reluctant to take up new varieties of staple crops developed to boost smallholder yields and rural incomes. Low fertilizer use is often mentioned as a proximate cause, but some believe the problem originates with incomplete input markets. As a remedy, African governments have introduced technology adoption programs with fertilizer subsidies as a core component. Still, the links between market performance and choices about using fertilizer are poorly articulated in empirical studies and policy discussions, making it difficult to judge whether the programs are expected to generate lasting benefits or to simply offset high fertilizer prices. This paper develops a conceptual model to show how choices made by agents supplying input services combine with household livelihood settings to generate heterogeneous decisions about fertilizer use. An applied model is estimated with data from a panel survey in rural Ethiopia. The results suggest that adverse market conditions limit the adoption of fertilizer-based technologies, especially among resource-poor households. Farmers appear to respond to market signals in the aggregate and this provides a pathway for subsidies to stimulate demand. However, the research suggests that lowering transaction costs, through investments in infrastructure and market institutions, can generate deeper effects by expanding the technologies available to farmers across all pricing outcomes.

Understanding the sources of spatial disparity and convergence : evidence from Bangladesh

This paper utilizes the mixed effects model to measure and decompose spatial disparity in per capita expenditure in Bangladesh between 2000 and 2010. It finds a significant decline in spatial disparity in urban areas and the country as a whole but no substantial change in rural areas. The decomposition analysis indicates that average years of education, the percentage of households with electricity connections, and phone ownership account for most of the spatial variations in welfare. Spatial convergence in urban areas can be explained primarily by the expansion of electricity and phone networks for household use. Improved access to these services had little effect on spatial disparity in rural areas. This paper offers several explanations for the difference in convergence rates between urban and rural areas.

Export entrepreneurship and trade structure in Latin America during good and bad times

The authors use a new dataset on export transactions for a large set of Latin American and Caribbean and comparator countries to assess the extent of "export entrepreneurship" during periods of fast export growth (2005-2007) and depressed external demand (2008-2009). Export entrepreneurship is equated with the extensive margin of exports, namely the advent of new exporting firms, new export products, and new export market destinations. The main findings are: (1) annual exporter entry, exit, and survival rates in Latin America and the Caribbean are quite similar to what is observed in other countries, and entry rates across sectors are quite similar but survival rates appear to be highest in agriculture; (2) the relative size of entrants into export markets (relative to incumbents) tended to be lower for natural resource-abundant countries during 2005-2007, but less so during the crisis years of 2008-2009; (3) entry rates tend to be lower in sectors in which a country has revealed comparative advantage, however, exit rates and survival rates of new exporters are higher in those sectors; and (4) the low growth of exports during the global recession of 2008-2009 in Latin America and the Caribbean was due to lower growth in exports of incumbent firms' pre-existing products and destinations, while new products and destinations tended to attenuate the recession's effects. Overall, the data suggest that the Latin American and Caribbean region appears to be no less entrepreneurial in terms of the extensive margins of exports than comparator countries.

Export liberalization, job creation and the skill premium : evidence from the U.S.-Vietnam bilateral trade agreement

This paper explores how the expansion of labor-intensive manufacturing exports resulting from the United States-Vietnam Bilateral Trade Agreement in 2001 translated into wages of skilled and unskilled workers and the skill premium in Vietnam through the channel of labor demand. In order to isolate the impacts of trade shock from the effects of other market-oriented reforms, a strategy of exploiting the regional variation in difference in exposure to trade is employed. Using the data on panel individuals from the Vietnam Household Living Standards Surveys of 2002 and 2004, and addressing the issue of endogeneity, the results confirm the existence of a Stolper-Samuelson type effect. That is, those provinces more exposed to the increase in exports experienced relatively larger wage growth for unskilled workers and a decline of (or a smaller increase in) the relative wages of skilled and unskilled workers. During the period 2000-2004, the skill premium increased for Vietnam's economy as a whole in the sample of panel individuals. Thus, the Stolper-Samuelson type effect appears to have mitigated but did not outweigh the impacts of other factors that contributed to the rise in the skill premium.

Foreign job opportunities and internal migration in Vietnam

This paper investigates the role of employment opportunities created by foreign-owned firms as a determinant of internal migration and destination choice using the Vietnam Migration Survey 2004 and the Vietnam Household Living Standards Survey 2004. Multinomial logit and conditional logit models are estimated to study both origin and destination-specific characteristics of migrants. The paper finds that the migration response to foreign job opportunities is larger for female workers than male workers; there appears to be intermediate selection in terms of educational attainment; and migrating individuals on average tend to go to destinations with higher foreign employment opportunities, even controlling for income differentials, land differentials, and distances between sending and receiving areas.

Foreign wage premium, gender and education : insights from Vietnam household surveys

This paper investigates the differential impacts of foreign ownership on wages for different types of workers (in terms of educational background and gender) in Vietnam using the Vietnam Household Living Standards Surveys of 2002 and 2004. Whereas most previous studies have compared wage levels between foreign and domestic sectors using firm-level data (thus excluding the informal sector), one advantage of using the Living Standards Surveys in this paper is that the data allow wage comparison analyses to extend to the informal wage sector. A series of Mincerian earnings equations and worker-specific fixed effects models are estimated. Several findings emerge. First, foreign firms pay higher wages relative to their domestic counterparts after controlling for workers' personal characteristics. Second, the higher the individual workers' levels of education, the larger on average are the wage premiums for those who work for foreign firms. Third, longer hours of work in foreign firm jobs relative to working in the informal wage sector are an important component of the wage premium. Finally, unskilled women experience a larger foreign wage premium than unskilled men, reflecting the low earning opportunities for women and a higher gender gap in the informal wage sector.