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Surviving the Hunger Games: Russian Agrarian Reform During and After the 2014 Food Embargo

By Thomas H. Espy

Abstract

This paper discusses and analyses Russian agrarian policy and reform in light of the 2014 Russian food embargo, and it examines means of improving agricultural efficiency among Russian farms to meet domestic demand. The paper begins with a discourse on three general frameworks of property systems and their application to modern Russian agriculture. It includes a quantitative analysis of variance (ANOVA) of agricultural efficiency among the three types of Russian farms—household plots, peasant farms, and agricultural organizations—and a qualitative analysis of key reforms which continue to shape Russian agriculture. This paper finds that, while there are no intrinsic differences in agricultural efficiency among farm types, there are other notable differences among the farm types which can be explained by incentives and barriers to productivity framed in agrarian reforms. It contends that agricultural organizations vary wildly in productivity due to perverse incentives in such reforms, and that small household plots are unaided by these reforms in addressing perennial problems of insufficient capital and poor access to credit. The paper concludes with a series of recommendations for addressing problems arising from these incentives and barriers.

Introduction: The 2014 Russian Food Embargo and Russian Agrarian Policy

In direct response to economic sanctions imposed by several western countries to punish the Russian Federation for its role in the Ukraine crisis, the Russian federal government implemented a massive anti-western food embargo, banning imports of vegetables, fruits, poultry,
pork, dairy products, and other foodstuffs from the United States, the European Union, Canada, Norway, and Australia (Figure 1). The embargo was signed on August 6, 2014; it took effect a day later, and will continue for one year. Given the insolubility of the Ukraine crisis, however, Russian leaders may find cause for prolonging the embargo.

Figure 1: Embargoed Foodstuffs

The Russian Federation has long been one of the world’s largest food importers; in fact, Russia regularly imported 40 percent (43 billion USD in 2013) of its food supply before the embargo. This new policy has had a particularly harsh impact on the EU, as their annual exports of foodstuffs to Russia totaled over 15 billion USD. Estimates of total losses incurred by embargoed countries reach as high as 19 billion USD (15 billion USD lost by EU countries), though EU sources affirm that real losses to European producers equal 6.6 billion USD. In addition to the heavy economic blows against EU member states, the Russian food market is facing setbacks. These effects are not evenly distributed across the country: the largest supply cuts have occurred in the major cities, especially
Moscow, where a substantial portion of the food supply (for some restaurants up to 90 percent) comes from abroad. Food prices have already risen by 40 percent in many parts of the country. The Kremlin has looked to its allies, namely Belarus and Kazakhstan—members of the nascent Eurasian Economic Union—to recover these losses through increased imports. The government has also formed bilateral trade agreements with China and Argentina, among others, to import fish, meats, and dairy products.

While the trade policy shift is crucial for replacing western food imports, of equal importance is the government’s push to increase domestic output across the country. Many corporate farms have pledged to boost output to meet demand in the cities. In addition, the government plays a major role in domestic supply by distributing massive subsidies. The Putin administration has attempted to increase agricultural output through public spending in the past: in 2007, the government initiated a five-year “accelerated livestock development” program at a cost of 11 billion USD. The government also recently announced a new wave of subsidies totaling 42 billion USD to help all agricultural producers through 2020. These are, however, blanket subsidies: they do not strategically target or give preference to more productive producers, and they involve drawing large sums from Russia’s Federal Reserve Fund. Various types of federal and regional grants, such as competitive block grants with general conditions, categorical grants with more stringent conditions, and microgrants for targeting smaller firms and households, may pose a viable alternative to such blanket subsidies.

Given that the Putin administration plans to make Russia an agriculturally self-sufficient state and a net exporter of foodstuffs, there are two major policy issues that the government must address. In the short-term, the government must look for ways to fight high food prices and general inflation. In the long-term, leaders must make policies which will improve efficiency in the agricultural sector. The government has already begun to address the short-term problem through its shift in trade policy. There is little information on the total amount of new imports from Latin
America and Asia, but increased imports may reinforce the ongoing depreciation of the ruble. Russia has attempted to address this problem by raising the nominal rate of interest and boosting exports of natural gas and other commodities.

The focus of this paper is the second policy issue: the improvement of agricultural efficiency. This paper will examine the problems associated with the agriculture industry’s economic efficiency and explore different means of improving this efficiency so producers may more effectively and sustainably meet domestic demand. This paper will consider land tenure and transfer, capital and access to credit, and policy incentives as core factors in the efficiency of the agricultural sector, and it will consider annual crop yield in tons per hectare as a measure of such efficiency. The Russian Federation has approximately 44 million hectares (106 million acres, slightly larger than California) of unused agricultural land. Only 73 million hectares (175.2 million acres) are currently used.12 This paper will discuss methods for allotting this land for efficient use, such as contracting and competitive bidding; specific methods for improving small-scale agricultural efficiency, including block cropping and capital pooling to achieve economies of scale; and particular methods for incentivizing such improvements, such as competitive block grants, categorical grants, microgrants, and direct guaranteed loans for small farms.13 The structure of the paper will include (1) an introduction to the three main theoretical frameworks of property systems and their application to Russian agriculture, (2) an overview of the analytical methodology of the paper, (3) an explication of the key terms used in the analyses, (4) a quantitative analysis of agricultural efficiency among farm types, (5) a qualitative analysis of federal agrarian reform policies, and (6) closing remarks.

Three Theoretical Frameworks of Property Systems

In this paper, I consider three broad frameworks of property systems: the state framework, the neoclassical framework of private property rights, and the self-governing systems framework. Each of these frameworks seeks to define and explicate the most efficient form of land
tenure and use, and each is germane to agrarian policy in the Russian Federation.

The state framework is rooted in Thomas Hobbes’ *Leviathan*, wherein Hobbes argues that the preeminence of a sovereign is necessary for the restraint of a chaotic, anarchic society, particularly with regard to property ownership. Karl Marx holds that communist revolutions would constitute a complete paradigm shift in property systems, asserting that working classes should seize all capital, including land, and centralize it. Among his first tenets in *The Communist Manifesto* is the “abolition of property in land and [the] application of all rents of land to public purposes.” State ownership of credit, communications, and transportation infrastructure, in addition to the formation of industrial and agricultural labor armies and the diffusion of industrial zones to equalize population distributions, are major axioms of Marxist socialism.\(^{14}\)

Vladimir Lenin argues that the process of monopolization found in imperial European economies of the early 20\(^{th}\) century would actually further the process of socialization in production. According to Lenin, imperialist governments—imfluenced by monopoly groups and competition with other imperialist governments—annex, divide up, and exploit colonial territories across the globe. Thus, the appropriation and tenure of land is neither fragmented nor anarchic; rather, it is organized on the macro-level. Lenin echoes the argument made by Henri de Saint-Simon that the contemporary imperialist mode of production would give way to a new system of production under a single “social institution”—a central management body that would govern and regulate the macro-level “social economy,” appropriate the means of production, and look to the “harmonization of production and consumption.”\(^{15}\)

The neoclassical framework of private property rights, the effective antithesis of the state framework, is based on the liberal economic theories of Adam Smith’s *Wealth of Nations*. Among the qualities of private property rights are exclusivity, divisibility, liberty, clear definition, and backing by a sovereign, *laissez-faire* government. David Hume emphasizes
the exclusivity and divisibility of property, and John Stuart Mill holds that the owner of a property is at liberty to do with that property as he or she wishes. In this framework, the clear definition and backing of property rights are fundamental parts of achieving a wealth-maximizing and efficient allocation of resources. Gary Libecap defines private property rights as “social institutions that define or delimit the range of privileges to individuals to specific assets, such as parcels of land or water.” Libecap considers the adoption and backing of property rights in addition to a reliance on market prices as means to achieve the efficient and sustainable management of a resource. Omotunde E. G. Johnson contends that a government has a role that includes the definition and firm backing of individual property rights and the minimization of restrictions on the sale of land. Rolf Steppacher argues that property is a de jure claim to an asset, an ensured entitlement to the capacities to (1) back it legally, (2) hold it as collateral for receiving loans, (3) sell and lease it, and (4) enforce and secure it. Hernando de Soto sees that property rights are contingent upon robust laws on legal titling and the ability to make claims and settle disputes in courts. Thus, if property rights are not clearly defined and backed, individuals will not engage in entrepreneurship and will leave property unused.

The primary medium for defining and backing private property rights is legal titling. Mill affirms the necessity of (legal) titles as a mechanism for upholding the “prescription” of property. Kwabena Bentsi-Enchill understands a right to property as a composite of (1) a liberty to use a property, (2) the restriction held against others not to impinge upon that liberty, and (3) the appropriate reprisal against any person in violation of that restriction. Property consists of the link between these rights and a legal title. David Ault and Gilbert Rutman contend that the creation of legal titles decreases transaction costs, the contracts formed in which promote the most efficient use of property via the sale of land to the owner who values it most and will use it most productively. Titling and individual ownership ensure property security and reduce court costs. Thus, legal titling and contracting for private property rights are
understood to be the core tools which bring about the efficient allocation and sustainable use of resources.

The self-governing systems framework, which lies between the state and neoclassical frameworks in terms of scope, concerns networks of individuals and groups that collaborate as a community and collectively own and manage a common-pool resource (CPR). Elinor Ostrom argues that self-governing property systems emerge naturally amidst an anarchic state, and that these community-level systems establish their own institutions for collectively governing a CPR in a manner that sustains the CPR and generates optimal outcomes for the community. The foremost problem that a CPR faces is its high costs to exclude potential users who wish to extract more than their appropriated amounts. These systems invariably design and assign specific roles to individuals or groups in the system, and they form their own strata of rules ranging from general adjudication to daily operations.\textsuperscript{26,27} In addition to Ostrom’s institutional framework, Daniel Bromley considers the formation of property rights. He suggests that a right to property presumes a duty of other individuals to respect such a property right, which serves as the basis for a social contract and civil society that in turn constitute the bedrock of a property right. Bromley states that “all property rights flow from the collective.”\textsuperscript{28}

All three of these frameworks have been applied to the distribution, ownership, and use of land in Russia, whether historically or presently. The state framework was applied rigorously under the Soviet command economy. Following the tumultuous dissolution of the Soviet Union, the Yeltsin administration saw fit to apply the neoclassical framework through inconsistently thorough and generally unwieldy privatization policies. Preceding and surviving both of these approaches is the self-governing systems framework, which often emerge naturally in the more remote rural Russian village communities. All of these frameworks should be considered when examining Russian property systems. In fact, it will be crucial to consider the residual effects of Soviet-style state ownership on contemporary agrarian policy. Nevertheless, given the general dominance of privatization since 1991, this paper will primarily examine the
application of the neoclassical framework in Russian agrarian reform policy.

Theoretical Frameworks as Applied to Post-Socialist Russian Agriculture

Stephen Wegren discusses the development of agricultural land reform in Russia since the 1980s, arguing that, like many factories, farms were intended to be privatized through competitive auctions and other liberal measures, so as to break up large collective enterprises once held by the state. These reforms were largely unsuccessful, however, as large, inefficient, rent-seeking agricultural enterprises emerged to supplant state agricultural farms. Wegren cites two likely causes: bureaucratic resistance to reform and conflicting incentives in reform legislation. The latter of these causes will figure heavily into the qualitative analysis portion of this paper.

The Yeltsin administration nominally prioritized the privatization of farms in the 1990s, and the Putin administration substantiated this privatization through several land and agrarian reform policies in the 2000s. The most critical of these were the Land Code of the Russian Federation (2001), the Law on Transfer of Agricultural Lands (2002), the Law on Private Plots (2003), and the Law on Development of Agriculture (2006) and its subsequent implementation program (2008-2012). In total, these reform policies were designed to promote competition, more movement to the countryside, greater investment in the agricultural sector, and higher agricultural output. These reforms aimed to establish private property rights for agricultural land parcels and facilitate land transactions. In addition to these reform policies, the federal government organized an All-Russia Agricultural Census in 2006—the first of its kind in the Russian Federation—and will perform another census in 2016.

While the movement from state ownership to private ownership has benefitted Russian agriculture in some ways, it still faces some challenges, and an effective private property regime has yet to be firmly established. Renaud, Eckert, and Anderson argue that the absence of any tradition or past institutions for secure private property in Russian history
explains the government’s failure to establish a robust private property regime. Because the government is not seen as an impartial protector of private property rights, and because the government is not trusted to back private property rights consistently, there is an entrenched resistance to register properties and pay taxes, which incentivizes local governments to rely on land rents. The following sections detail the quantitative and qualitative analyses that will provide richer insight on these frameworks and their application in Russia.

Overview of Analytical Methodology

Having formed a theoretical foundation on property systems in Russia, I will now outline the analyses that will test this foundation. First, I will define and explicate key terms which are central to the analyses. These key terms consist of the three categories which the Russian federal government uses for making policy on agriculture. This paper contains two analyses, the first of which is a quantitative, one-way analysis of variance (ANOVA) between types of farms according to vegetable yield per hectare. This analysis will reveal the variation in productivity and efficiency of agricultural lands according to land tenure. The study will in part test Wegren’s claim that agricultural organizations are generally inefficient. The examination will focus on vegetables because this subset of agricultural produce is common among all farm types. Furthermore, the vegetable industry has been affected by the embargo, and has therefore been prioritized in the federal government’s push to increase production. The second, qualitative analysis will examine and critique the aforementioned agrarian reform policies. These analyses will be followed by recommendations for federal and regional policy-makers in Russia.

Key Terms for Analyses: Farm Types

The following farm types are categories of land tenure designated by the Russian federal government. They consist of household plots, peasant farms, and agricultural organizations. As there are only three types, these categories are very inclusive. For example, “agricultural organizations”
includes domestic and foreign enterprises, as well as firms which vary greatly in size in terms of capital and labor. If agrarian policy is to be reformed, then it invariably must be done using the following designations; that is, unless these categories too are changed as part of such reforms.

*Household Plots*

A private household plot is an agricultural land category that includes dacha plots. These are small-sized plots of 0.2 to 3 hectares (0.5 to 7.5 acres). Household plots usually grow a variety of nutrient-rich vegetables and grains. Some raise small numbers of livestock and generate dairy products on a small scale. These plots often cluster to form villages, whether in isolated areas or on the outskirts of towns or cities. The produce of these plots is generally traded within village communities, and remaining produce is often sold in urban areas at uncompetitive prices, generating considerable waste. Household plots tend have relatively small endowments of both physical and financial capital.\(^{30}\)

A phenomenon that has become more common in the past decade is the practice of renting dacha plots for recreational use during summer vacation months. Dacha life is a cultural institution held over from the 18th century, and renting a dacha has become a common pastime among wealthier Russians. Dacha ownership is also common among more affluent Russians, but owners typically occupy their properties only on a seasonal basis. While some villages continue to have a strong sense of cohesion between households, the growth of dacha renting and seasonal occupancy has caused fissures in rural communities, breaking down cooperative efforts and social harmony. Dachas and dacha vacations are widely considered a private institution rather than a communal one. Despite this social fracturing, however, studies have shown that the increase of human capital brought about by dacha rental and ownership raises income levels for all groups in rural communities.\(^{31}\) In terms of output, only 15 percent of produce comes from dacha plots, likely because the plots are seasonally occupied.\(^{32}\) The Law on Private Plots (2003) has in large part facilitated this overall trend.
Though the overriding trend among villages has been one of depopulation and flight to the cities, some rural communities have done comparatively well. In fact, one relatively recent and important development in some rural areas is the farming method known as “block cropping,” which consists of the rearrangement of smaller land plots such that they form larger plots of the same crop. It is generally used to boost productivity and output with less fixed capital. While this may be ecologically unsound for large-scale farming, it would allow household plots and peasant farms to pool their physical capital and improve their produce yields without causing soil damage across large areas of land.\textsuperscript{33}

Due to the paucity of capital, one major obstacle to production and distribution which household plots face is transportation. Transporting produce from small farms to major markets is costly because of poor infrastructure—a responsibility put upon the government by the Land Code. Because of this, 20 percent of vegetables and 50 percent of fruits produced are wasted because they cannot compete with import prices. The Ministry of Agriculture has announced a plan for more public spending on transportation networks to connect agricultural producers and markets, but this will take years to realize.\textsuperscript{34}

\textit{Peasant Farms}

These agricultural units are slightly larger in size, ranging from 10 to 50 hectares (24-125 acres), and they too are privately owned. Though their respective sizes constitute the more obvious difference between them, another difference is that peasant farms must be purchased for a fee, albeit without competitive bidding.\textsuperscript{35} Though peasant farms are privately owned, their development is led in part by regional governments. Some major expenses regarding the allocation and formation of peasant farms are borne by the budget of the presiding regional government.\textsuperscript{36} This is linked to the process of rapid, state-led farm privatization, which took place largely between 1991 and 1994. Most peasant farms (approximately 280,000, or 5 percent of Russia’s arable land) were established during this time. These farms originate from the Soviet collective farms, and they result from an
individual registering and dividing out his or her own share of the assets of the collective farm on which he or she originally worked. In general, these farms have struggled to manage themselves, and their overall number has declined since the first wave of privatization in the early 1990s.\(^{37}\)

Agricultural Organizations

This category includes a wide array of enterprises that dominated Russian agriculture since 1991. The geographical size of these enterprises can range from a few thousand hectares to nearly 300,000 hectares (up to 740,000 acres). Similar to peasant farms, these enterprises largely result from the breakup of collective farms—much of which occurred in the early 1990s—though many of these farms continued under their original Soviet proprietors. Not all of these organizations are the same, however, as they vary according to size and ownership. This category includes joint-stock companies and foreign firms, among others. In 2007, these organizations held 80 percent of all agricultural lands, but only contributed 40 percent of national agricultural output (compared to 50 percent contributed by household plots).\(^{38}\) This category contains the greatest amount of diversity: it includes both highly productive joint-stock companies, such as Cherkizovo Group and Black Earth Farming Ltd., and large Soviet holdovers which continue to produce low yields.\(^{39}\)

There are several examples of efficient corporate farms in Russia. Kuban Agro—a fruit, vegetable, and grain company—reaped 6.5 tons per hectare in 2012, and Black Earth Farming Ltd. had a yield of 3.5 tons of grain per hectare in 2013.\(^{40,41}\) These compare favorably to Russia’s average grain yield of 1.8 tons per hectare. Kuban Agro and Black Earth Farming Ltd. have yields comparable with US and Canadian grain yield averages of 6.36 and 3.04, respectively.\(^{42}\) Though they fell during the 2008 financial crisis, world food prices have generally increased since 2005. As a result, major agricultural firms have earned increasing revenues and have subsequently expanded and invested in greater technological advancements. In addition, these firms became much more technologically efficient as more market reforms took shape between 2006 and 2008.\(^{43}\)
The more competitive agricultural organizations have actually benefited from the August sanctions. Though consumers have been hurt by the food embargo, these producers have experienced an upshot in investor confidence, reflected by a 30-40 percentage point increase in stock prices and an influx of capital.\textsuperscript{44}

Quantitative Analysis: Annual Yield of Vegetables in the Central Federal District

The previous section defined some of the key terms that lie at the foundation of both the quantitative and qualitative analyses of this paper. The farm type designations and their respective sizes will figure heavily in the quantitative analysis and its conclusions, and many of the other details revealed in the previous section will aid the qualitative analysis of recent Russian agricultural land reforms. This section will focus on an analysis of variance (ANOVA) test between the three farm types to see if any one farm type is more efficient than the others in terms of annual yield of vegetables in tons per hectare. The ANOVA test will concentrate on the Central Federal District, which encompasses the majority of Russia's quality agricultural lands.

Analysis Question, Hypotheses, and Data

I pose the following question for this analysis: is there a statistically significant difference between the three categories of farms in the Central Federal District in terms of yield of vegetables measured in tons per hectare? The null and alternative hypotheses consist of the following:

\[ H_0: \mu_{\text{Household Plots}} = \mu_{\text{Peasant Farms}} = \mu_{\text{Agricultural Organizations}}, \]
\[ H_1: \text{the } \mu's \text{ are not all equal,} \]

where \( \mu_{\text{Household Plots}} \) is the average annual yield of vegetables from private household plots, \( \mu_{\text{Peasant Farms}} \) is the average annual yield of vegetables from peasant farms, and \( \mu_{\text{Agricultural Organizations}} \) is the average annual yield of vegetables from agricultural organizations.
While a reasonable amount of data on this subject exists, it is not all readily available or necessarily complete. The Federal State Statistics Service (FSSS, or Rostat) is widely considered the most reputable source of statistical data in Russia. The data used in this analysis originated from the FSSS. As a caveat, I should note that the data are from 2008, a limitation to the validity of my conclusions. The observations consist of seventeen oblasts (Russian provinces) in the Central Federal District. This region extends from the Ukrainian border in the south to Moscow in the north and the flatlands to the west of the Volga River. There is no randomization in the sample because it is meant to exclusively focus on this region, Russia’s most valuable agricultural area. The data were originally recorded in hundredweight per hectare, but herein they will be shown as short (US) tons per hectare. As part of the analysis, I tested the data for sample distribution normality and outliers. The sample distribution is normal, but there is one outlier in the sample.

**ANOVA Results**

Figure 2 shows that the variation in the medians of each of the farm categories is relatively small; it also shows the full range of variation in each category. Most notably, the degree of variation in yield for agricultural organizations is much greater than that of private household plots. After performing an analysis of variance test, I determined that there are no significant differences among the means of the farm types. The F-value of this analysis is quite low (1.694) and the p-value is 0.195, indicating no statistically significant difference. Therefore, I must conclude that I cannot reject the null hypothesis, $H_0: \mu_{\text{Household Plots}} = \mu_{\text{Peasant Farms}} = \mu_{\text{Agricultural Organizations}}$. Figure 3 provides further visualization of the relationships between the means. Because all differences in mean levels of farms vary between positive and negative values (i.e. every line crosses zero), there are no significant differences between the farm types.
Figure 2: Box-Whisker Plot – Annual Vegetable Yield by Farm Type

Note: agorg = agriculture organizations, hshd = household plots, psfm = peasant farms.

Figure 3: Tukey HSD Posttest of One-Way Analysis of Variance (ANOVA)

Note: agorg = agriculture organizations, hshd = household plots, psfm = peasant farms.
Conclusions and Inferences for Further Analysis

Though I cannot conclude that any one type of farm can produce vegetables most efficiently in terms of tons produced per hectare, I can make two inferences for further study. First, the degree of variance within the agricultural organizations category indicates that, while some corporate farms reap very high yields, others reap surprisingly low yields. Though these results do not directly corroborate Stephen Wegren’s assertion that agricultural organizations are generally inefficient, they certainly do not counter such an argument either. Wegren states that one likely cause of the persistence of inefficient agricultural organizations is conflicting incentives in reform legislation. I will investigate agrarian reform policies to ascertain any conflicting incentives and their implications.

Second, the substantial difference in variation between agricultural organizations and household plots may be indicative of a major difference in physical and financial capital investment. Household plots tend to be capital-poor and often rely on traditional methods of food storage (e.g. underground cellars) and processing. Capital investment is concentrated heavily within the agricultural organizations category, and much of it is invested in physical capital renovations and improvements. Capital investments are a critical part of agricultural sector growth and economies of scale, as technological advances permit huge gains in productivity. However, such technology implies high up-front costs, which most household plots cannot absorb. In general, many private plot owners have limited access to credit: banks are generally uninterested in lending to small-scale agricultural enterprises because household plots’ small size and lack of economies of scale present a higher degree of risk to lenders looking for favorable returns on investments.

Qualitative Analysis: Federal Agrarian Reform Policies

The previous section specifically examined the differences in annual yield between the three farm types in the Central Federal District of the Russian Federation. Though no significant differences were found between
their parameter means ($\mu$), the disparity between agricultural organizations and household plots in terms of degree of variance is intriguing. I posited that one possible factor in this discrepancy is capital investment. While I cannot prove any causal argument linking capital investments and yield with the data at hand, I can shed more light on the issue by examining a series of crucial federal agrarian reform policies and pointing out their connections to the current problems affecting all farm types. The policies under examination span from 2001 to 2008, and each plays a unique role in shaping contemporary Russian agriculture.

The 2001 Land Code is a decisive framework that continues to serve as the foundation for all land policy in Russia. While the land under its purview is relatively small, the code contains very important provisions, including a streamlined land rental process for foreign firms. Most importantly, the code outlines the guiding principles for framing future policies regulating land transactions, taxes, and other important aspects of land tenure and use. Among other regulations, there is a “rational use” clause, which outlines the base usage requirements pressed upon land owners. While the Land Code gives provisions to foreign firms investing in Russian land, it also places certain restrictions upon them. For example, foreign firms and individuals may not own rights to agricultural lands; in fact, they may only make contracts for renting agricultural lands. Furthermore, there is a maximum time limit of 49 years placed upon all lease contracts involving foreign firms. New amendments to the Land Code state that the redistribution of state and municipal lands must be done via competitive auction with an additional fee.

The Law on Turnover of Agricultural Land (2002) regulates land transactions, land tenure, and the disposal of agricultural land plots. It also sets use restrictions regarding transactions for the plots and shares in common property of agricultural land, and it determines the terms and conditions of allotment of the plots of agricultural land pertaining to public or municipal property. However, the provisions of this law do not apply to plots distributed for personal usage, gardening, or animal husbandry.
The Standard Agricultural Tax (SAT) for Agricultural Organizations was introduced in 2003 for agricultural organizations, which were given a choice to either adopt an SAT tax or maintain the default tax regime. The SAT is 6 percent of the difference between gross receipts and total costs of a firm. If a firm adopts the SAT regime, it is absolved of all other taxes. Approximately 65 percent of all agricultural organizations have adopted the SAT tax regime. However, even those organizations that have not adopted the SAT tax are given preferential treatment on income tax based on earnings from agricultural goods: firms pay a zero percent rate rather than the standard 24 percent rate.\textsuperscript{50}

The Law on Private Plots (2003) is a policy designed to incentivize relocation to the countryside and private ownership of state and municipal lands. The major provisions of the law consist of (1) free redistribution of public lands to citizens and (2) no taxation of produce or transactions arising from these plots. The sole obligation placed on citizens is the registration of their plots with the presiding local government.\textsuperscript{51} Notably, the Law on Private Plots formally legitimized and facilitated an already present phenomenon: the ownership of small private plots and related trading within villages. Before these reforms were made, such plots provided over 50 percent of Russia’s food supply.\textsuperscript{52} Private plots now supply approximately 40 percent.\textsuperscript{53} While the policy aims to redistribute public lands efficiently, it has no provisions to encourage community development or collective activities in rural settings.\textsuperscript{54}

The Law on Development of Agriculture (2006) outlines six goals for all agricultural policy: (1) the improvement of the competitiveness and quality of agricultural products, (2) the sustainable rural development and improvement of rural living standards, (3) the conservation and reproduction of natural resources used in agriculture, (4) the creation of an efficient agricultural market and market infrastructure, (5) the formation of a favorable investment climate in the agricultural sector, and (6) the support of agricultural input-output price parity. The subsequent State Program for Development of Agriculture for 2008-2012 outlines the steps
Surviving the Hunger Games

for achieving these goals and puts a particular emphasis on improving capital investment and technological advancement. Another major provision of the State Program is concessional credit, which comes in the form of bank loan interest rate subsidies (Figure 4). For agricultural organizations, the subsidy is 66 percent of the regular rate established by the Central Bank of Russia, and it is 95 percent for small farms. All types of agricultural producers are eligible for these subsidies, which are levied both for short-term loans of a year and for investment loans up to eight years.

Figure 4: Concessional Credit


Analysis of Agrarian Reform Policies

Since the adoption of these reforms, agricultural production has improved across the board. Much of the growth in this sector has been concentrated among the larger and more competitive corporate farms. The SAT regime has likely aided this development: though it reduces tax
revenues, it concomitantly encourages investment from firms. However, a zero percent tax rate permission for those agricultural organizations not party to the SAT regime actually counteracts efforts to move firms to the SAT regime. It is very important that the SAT tax rate remains low, as a high tax rate would either incentivize output reduction (and thereby, revenue reduction) or discourage minimizing production costs. A common criticism of gross receipt taxes, to which the SAT is very similar, is that they incentivize the use of a vertical business model; such a model is common among Russian corporate farms, has relatively high capital requirements, and has a comparatively rigid production scheme. In addition, these tax incentives are not based on any measure of efficiency. These tax incentives are offered to all agricultural organizations, regardless of revenues or yield per hectare, and thereby reduces the tax regime’s effectiveness at incentivizing land use efficiency among these firms.

The Law on Development of Agriculture, in addition to its subsequent program, fills the policy hole left by the Law on Private Plots concerning community development. However, none of these policies have specific strategies for rural community integration, especially in economic terms. Furthermore, while concessional credit guaranteed by this pair of policies may be a sound policy under normal economic conditions, Russia’s current dilemma of inflation and low growth means that the real rate of interest is very low (0.4 percent in November 2014). Thus the incentive provided by such a measure is actually quite small and will likely prove ineffective.

**Recommendations**

The Russian federal government should recognize that its traditional measures for agrarian policy and reform, subsidies included, are inadequate in the context of the current embargo in that they entail haphazard public spending from a diminishing Reserve Fund. Below are recommendations for policy-makers, especially those in the Ministry of Agriculture, to consider. With regards to agricultural organizations, the federal government should disaggregate firms according to productivity
level and land holdings during the 2016 All-Russia Agricultural Census. From the census data, officials should ascertain which firms are producing inefficiently and revoke both their privilege to choose an SAT regime and other tax permissions.

Federal policy-makers should apply a narrow interpretation of the “rational use” clause of the Land Code such that, if a given firm cannot or is not producing sufficiently high yields per hectare (as determined by the difference between productivity levels shown in the 2016 census and the 2006 census), then that firm’s tenure will be dissolved and its property will be seized and redistributed via competitive auction. Such a procedure should also occur for those firms reporting no agricultural operations as well. One caveat is that federal regulations regarding the monitoring of soil quality must be observed faithfully and meticulously. Again, when the upcoming agricultural census takes place, this category of agricultural unit must be subdivided: it is far too broad and must be broken apart to differentiate efficient firms and inefficient firms so that lands can be properly redistributed for efficient use. In general, the government needs to introduce policies that expose agricultural organizations to market competition.

The federal government should amend the Land Code to give foreign firms enough latitude to contract for private ownership of or to engage in competitive bidding for currently unused agricultural lands. Peasant farms should be subjected to competitive bidding and compelled to internalize their own costs. Rather than provide blanket subsidies to all farmers, the federal government should provide competitive block grants to regional governments which can be distributed to farms of all types through competitive bidding. Moreover, these grants should be divided further according to purpose. For example, some funds may be set aside for microgrants for household plot communities. Regional-level microgrants could operate as project-based categorical grants in that they may, for example, require recipient communities to engage in block cropping or construct grain elevators and silos. Thus, the government could spur household farms to better achieve economies of scale by pooling capital
and managing pooled agricultural resources. If regional governments offer such grants to communities of household plots, they may incentivize greater social cohesion among household plot owners, the decline of which is a growing problem. The enticement of receiving future grants would encourage groups of households to work together toward the efficient and sustainable management of common-pool agricultural resources.

In addition, the Ministry of Agriculture should, like the US Department of Agriculture, provide direct and guaranteed loans to peasant farms and private plot owners; more specifically, these loans should be secured, open-ended, seasonal loans. This will allow households interested in expanding or investing in physical capital to bypass banks which may avoid lending to small farms; it will furthermore provide small farms enough flexibility to repay loans in spite of seasonal fluctuations in yield. In total, grant and credit schemes will address small farmers’ dilemma of scarce capital and poor access to credit. Such schemes will allow them to achieve economies of scale and more sustainably meet domestic demand with stably increased supply.

Closing Remarks

This paper has shown how the neoclassical framework, as applied through privatization and agrarian reform policies in the 1990s and 2000s, has continued to face a number of obstacles, most which concern conflicting policy incentives and poorly structured public spending schemes. This paper has also shown how each of the main frameworks of property systems applies to Russian agriculture and agrarian reform. Though the Yeltsin and Putin administrations have emphasized the neoclassical framework through privatization, the self-governing systems framework offers its own advantages which can and should be noted as policy-makers continue making reforms. The crux of the paper has been the examination of efficient forms of land tenure and use in Russia since 1991. The quantitative analysis of this paper showed no inherent differences in efficiency between household plots, peasant farms, or agricultural organizations in terms of annual yield. Even still, and in spite
of data limitations, I could infer that (1) agricultural organizations vary considerably in efficiency and (2) household plots are hindered by the lack of credit and capital. The qualitative analysis investigated and corroborated these inferences through the investigation of policy provisions and incentives offered to agricultural organizations, peasant farms, and household plots. The subsequent recommendations posited solutions to the problems presented by these reform policies.

The Russian Federation is facing an acute crisis amidst the larger issue of agrarian land reform. While change in the agricultural sector moves relatively slow, the federal government does have a handful of alternatives for addressing the crisis. The aforementioned policy recommendations constitute but a handful of options at the disposal of both the federal and regional governments, and they all have the potential to reap beneficial outcomes on the local, regional, and national levels. In fact, the recommendations should restructure agrarian policies such that they can promote market competition among agricultural organizations and empower small farmers to efficiently and sustainably meet domestic demand both during and after the food embargo and economic crisis.
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Surviving the Hunger Games


56 Ibid.

57 Ibid.
Policies and Politics: Assessing Shale Gas in Latin America

By Fátima Franco

Abstract

Latin America has a rich potential for the development of shale gas. The member countries of MERCOSUR share one of the biggest basins of shale gas in Latin America. This analysis is based on the framework of regional policy diffusion and focuses on showing the potential benefits and constraints for the development of shale gas for three of the member countries (Argentina, Brazil, and Paraguay) within the regional block. The hypothesis is that the regional block might tend to have a regional energy policy, become more coordinated, and adopt a common goal in the development of the regional block. The main findings show that efforts have been made to promote energy integration; however, the different characteristics of the countries and the asymmetries observed in the political and economic structures of each country pose a risk to the regional development of an important source of energy like shale gas.

Introduction

Having experienced dramatic social and economic changes in the last few decades, Latin America is on the path of development, undergoing an average annual growth of 4 percent in gross domestic product (GDP) in the last ten years.¹ This rapid development has been followed by a 27 percent increase in demand for energy for residential and industrial consumption.²

The region has a rich supply of untapped shale gas, an unconventional source of natural gas that could change the energy matrix in many countries and reduce the dependence on energy imports. Exploitation of gas can generate more energy at a low cost, reduce Latin American macroeconomic
vulnerability to global oil price shocks, and promote employment and economic growth in the region.

This paper will focus on the potential of shale gas in Latin America, specifically in Argentina, Brazil, and Paraguay, countries that are members of the Southern Common Market – Mercado Común del Sur (MERCOSUR) – and share one of the largest basins of shale gas in Latin America. The analysis is framed by policy diffusion theory and seeks to explain the adoption of a policy in a region, in this case a regional energy policy, and how it is adopted by each country. The hypothesis considered in this study is that a regional block like MERCOSUR might tend to show coordinated and synchronized policies, especially in the energy sector, looking for a common goal that is the development of the regional block. This paper is structured as follows: i) Introduction, ii) What is Shale Gas? iii) Energy Policy in Latin America, iv) Policy Diffusion, and v) Final Comments.

What is Shale Gas?

Shale gas is natural gas coming from an unconventional source. Shale is a group of rocks containing oil and gas that are found within the rock formations. Shale gas is extracted from greater depths than other sources of natural gas and has the characteristic of low permeability, which requires specific techniques for the extraction. The technique used for the extraction of natural gas is called “hydraulic fracturing”, or “fracking”, which involves inserting large volumes of water with high pressure to break the rocks in order to obtain gas. Over the years, the extraction technique has improved allowing the exploration of more possible sources of shale.

Around the world, the estimated proven natural gas reserves represent 6,839 trillion cubic feet (Tcf) distributed across 95 basins. The unproven shale gas that may be recoverable amounts to 7,201 Tcf; 24 percent is located in North America (1,685 Tcf), 22 percent in Asia and Pacific (1,607 Tcf), 20 percent in Latin America and the Caribbean (1,430 Tcf), 14 percent in the Middle East and North Africa (1,003 Tcf), seven percent in Europe (470 Tcf), six percent in the Former Soviet Union (415 Tcf), five
percent in Sub Saharan Africa (390 Tcf), and three percent in South Asia (201 Tcf).\textsuperscript{11}

In Latin America, shale gas is concentrated in Argentina (802 Tcf), Brazil (245 Tcf), Venezuela (167 Tcf), and Paraguay (75 Tcf), as shown in Graph 1.\textsuperscript{12} These are unproven shale gas deposits that are potentially recoverable resources. These four countries have the potential to export natural gas from this unconventional source and cover the supply in the local market.

Benefits of the exploitation of shale gas in the region include a reduction in the dependency of gas and oil imports and a decreased vulnerability to changes in international prices, which generate internal costs to fluctuate and impact on competitiveness of the countries. In addition, the exploitation of gas can generate more production at low cost, promoting employment and economic growth in the region.

However, some conditions are required to enhance shale gas industry in the region: a) high concentrations of shale gas, b) adequate pipeline infrastructure, c) access to fresh water (for hydraulic fracturing treatment), d) technical expertise in extraction techniques and local geography working knowledge, and e) availability of capital.\textsuperscript{13}

One of the main keys for the natural gas industry to move forward is the injection of capital in the form of domestic and foreign investment. The Energy Information Administration (EIA) estimates a measure of the total cost to produce natural gas, showing that the average is US$30 per 5,618 cubic feet.\textsuperscript{14} This includes lifting costs (operation, wells maintenance, equipment and facilities) and finding costs (exploring, developing reserves, and purchase properties). Based on this cost structure, the average for Latin America is around US$50 per 5,618 cubic, showing that for many countries the investment will require openness of markets to foreign investment and conditions that assure rule of law, property rights, and environmental protection.\textsuperscript{15} The level of foreign investment will depend on the rate of
return of the projects and stability in political and economic issues of the countries.

Graph 1. Shale gas – unproved technically recoverable resources
(trillion cubic feet)

Source: Compiled by the author, using data from the EIA report 2013 – “Technically recoverable shale oil and shale gas resources”.

Energy Policy in Latin America

**MERCOSUR**

In 1991, a group of countries in Latin America, including Brazil, Argentina, Paraguay and Uruguay signed the Treaty of Asuncion that created MERCOSUR.\textsuperscript{16} The regional bloc was created to promote free trade of goods and services between countries, adopt of a common trade policy, and coordinate macroeconomic policies in order to strengthen the integration process.\textsuperscript{17}

Located in the area of MERCOSUR is the Chaco-Paraná basin, one of the most important basins for shale gas in Latin America. The basin covers an area of 1.3 million km\textsuperscript{2}, covering parts of Argentina, Brazil, Bolivia, Paraguay, and Uruguay. So far, it has not been extensively explored because of the particular conditions on energy policy of each country member of the regional block; there are fewer than 150 wells drilled across the basin.\textsuperscript{18}
Since the constitution of MERCOSUR was signed, there have been many discussions on the energy integration in the block. One of the initial agreements, signed in 1993, is the resolution GMC\RES No.57\93 entitled Guidelines for Energy Policy in MERCOSUR, which establishes the importance of basic energy as input for socio-economic development of the countries in MERCOSUR integration process.¹⁹

In 2005, a joint presidential declaration of the member countries reaffirmed the efforts to move forward on the energy integration process for the region by signing an agreement to the development of a “South Gas Pipeline” connecting Venezuela, Brazil, Argentina and allowing to provide gas to Chile, Paraguay, and Uruguay.²⁰ It is estimated that the extension of the gas pipeline is around 12,000 km², and will allow the transport of up to 150 million cubic meters of gas per day from Venezuelan coastal deposits.²¹ This mega-project is focused on the long term, while studies of technical and economic feasibility are conducted and the corresponding negotiations among the countries come forward.

An objective of integration is clearly defined; however there has not been much progress to this date on the implementation of these proposals, which could be explained by the asymmetries existing within the block.

MERCOSUR member countries have an abundance of natural resources, yet have large asymmetries highlighted by their economic, social, political, and culture structures. There are two main groups in the regional block. The first group consists of the biggest members (Argentina and Brazil) because of their territorial size, population and economy. The second group is made up of minor members Paraguay and Uruguay, whose share in the indicators mentioned are not significant comparing to the other members. These are structural asymmetries. Another type of asymmetry is political, which highlights the differences in the political and economical systems in each country, denoting a lack of coordination of economic and social policy.²² This includes policies of investment promotion, support for productive sectors and exports, macroeconomic indicators (economic growth, inflation, public debt, exchange rate), and social programs for the poor.²³
The structural and political disparities constitute an obstacle to the implementation of effective regional policies that could strengthen energy integration, as most countries are focused at the national level rather than at the regional level.

**Argentina**

Argentina is the third largest economy in Latin America, with an average annual economic growth over the last ten years of 4 percent.\(^{24}\) One of the country’s main exports involves the production of agricultural foods (grains and cereals), followed by the industrial production of meat and automobile parts. MERCOSUR is an important trading partner, with 25 percent of the exports allocated to the regional block.\(^{25}\)

The energy matrix in the country relies on fossil fuels for energy needs. In Table 1, the energy production of the country is measured as equivalent in oil barrels showing that natural gas is the first resource for energy production, followed by oil and hydro energy. The energy gap, calculated as production minus consumption, shows an energy surplus with the potential for exports.

| Energy Matrix of Argentina – Year 2012 (Measured equivalent of oil barrels) |
|---------------------------------|---------------------------------|
| **Argentina**                   | Thousands of barrels of oil equivalent |
| **Energy Production**           | 581,867                          |
| **Oil**                         | 204,090                          |
| **Natural Gas**                 | 263,890                          |
| **Hydro Energy**                | 22,217                           |
| **Energy Consumption**          | 134,307                          |
| **Energy Gap (+/-)**            | 447,560                          |

Source: Table complied by the author using data from Economic Commission for Latin America and the Caribbean – CEPALSTAT.
Argentina’s shale gas represents the third largest recoverable reserve in the world. The Energy Information Administration (EIA) estimates that Argentina has 12 Tcf of proven shale gas reserve and 802 Tcf of technical recover resources of shale gas. These reserves are located in the Neuquén Basin (Vaca Muerta), San Jorge Basin, Austral-Magallanes Basin, and Chaco-Paraná Basin.

An obstacle for the development of shale gas in Argentina is the government’s energy policy and the overall economic situation within the country. Price controls and export taxes have deterred investment, creating a barrier to the attraction and retention of foreign investment. The energy market operates under tight government control. Operating costs are high, because currency controls push up the price of imported equipment and there are high tariffs. Also, the financial burden and the fear of expropriation are negative effects for foreign investment.

The expropriation of energy company Repsol/YPF in 2012 was a negative signal to potential investors, especially when the firm had confirmed important discoveries in the Neuquén Basin. The government justified this action by favoring the domestic consumers and imposing price controls on the domestic market. Given these facts, the political and economic situation in Argentina puts the development of shale gas industry in the country at risk.

Brazil

Brazil is the largest economy in Latin America and is among the ten largest economies worldwide. In the last ten years the average economic growth in Brazil was 3.2 percent. The main exports are minerals, coffee, oil, coal, meat, and soy, among others. The main export destinations are MERCOSUR members, the United States, Europe and Asia.

The energy matrix in the country relies primarily on oil production. Brazil has large basins of “pre-salt,” which refers to a set of rocks located in the coast with the potential of generating and accumulating oil. These areas are called such because the rocks are under an extensive layer of salt. One
of the wells Tupi, in the Santos Basin, has recoverable volumes estimated between 5 and 8 billion barrels of oil equivalent (oil plus gas).\textsuperscript{31} Also, the well of Guara, located in the same basin, has volumes of 1.1 to 2 billion barrels of light oil and natural gas.\textsuperscript{32} In April 2014, the production in the Santos Basin reached a record or 444,000 barrels per day; with these levels of production, the oil state company PETROBRAS estimated an increase of 1.2 percent in the production by 2018, reaching 3.2 million of barrels and 52\% of that production will come from the pre salt basin.\textsuperscript{33}

As can be observed in Table 2, oil is the first source of energy, follow by hydro energy and natural gas. The energy gap (production minus consumption) shows an excess in the production of energy that is oriented for export.

Table 2. Energy matrix of Brazil-Year 2012.
(Measured as equivalent of oil barrels)

<table>
<thead>
<tr>
<th>Brazil</th>
<th>Thousands of barrels of oil equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Production</td>
<td>2,039,922</td>
</tr>
<tr>
<td>Oil</td>
<td>779,049</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>161,197</td>
</tr>
<tr>
<td>Hydro Energy</td>
<td>256,743</td>
</tr>
<tr>
<td>Energy Consumption</td>
<td>407,614</td>
</tr>
<tr>
<td>Energy Gap (+/-)</td>
<td>1,632,308</td>
</tr>
</tbody>
</table>

Source: Table compiled by the author using data from Economic Commission for Latin America and the Caribbean – CEPALSTAT.

EIA estimates that Brazil has 14 Tcf of proven shale gas reserve and 245 Tcf of technically recoverable shale gas resources.\textsuperscript{34} This positions the country as tenth in the world for reserves of shale gas. However, the development of shale gas is not in the current interest of the government as they are more focus on the pre-salt basins and offshore activities that produce oil.\textsuperscript{35} In 2013 the government decided to auction some blocks of shale gas for exploration to private firms. Still, the efforts are not sufficient to fully develop the potential of shale gas industry in the country.
Paraguay

Paraguay has a small economy, the main economic activities of which are concentrated in the agriculture and livestock sectors. Agriculture accounts for 50 percent of the country’s total GDP.\textsuperscript{36} The sector is highly volatile due to weather conditions affecting the region that may be beneficial or adverse. The average economic growth of the last ten years has been 3.4 percent.\textsuperscript{37} The main trading partners for Paraguay are Argentina and Brazil and 40% of the country’s exports are sent to these countries.\textsuperscript{38}

The energy matrix of Paraguay is composed mainly by energy produced by two hydroelectric dams: Itaipú, a binational entity share with Brazil, and Yacyretá, another binational entity share with Argentina. Paraguay is one of the world’s largest net exporters of electric power, the energy production in 2012 registered as the equivalent of 43.262 thousands of barrels of oil.\textsuperscript{39} Paraguay consumed 16 percent of its share of Itaipú production, exporting the rest to Brazil.\textsuperscript{40} Yacyreta has 20 generators and a total installed capacity of 3,500 MW. Paraguay consumes less than 1 percent of its share of Yacyreta’s production, exporting the rest to Argentina.\textsuperscript{41}

Paraguay is also a net importer of crude oil and provides subsidy for diesel fuel. Given the volatility of international oil prices, the application of a subsidy prevents the transfer of international prices to domestic prices and generates an effect of pushing up the fiscal costs of diesel subsidy. These costs are implicit in the deficit financial results which consequently generates an upward pressure on public debt.

In regards to shale gas, the estimated reserves of shale gas in the country have the potential to cover the local market and reduce the country’s dependency on imports. However, the development could be very costly considering the lack of gas pipelines in the country and the financial burden of oil subsidies.

As it is observed in Table 3, hydro energy is the only source of energy production in the country. The energy gap, production minus consumption,
shows an excess in the production of hydro energy.

Table 3. Energy matrix of Paraguay – Year 2012.
(Measured as equivalent of oil barrels)

<table>
<thead>
<tr>
<th>Energy Production</th>
<th>Thousands of barrels of oil equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>0</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>0</td>
</tr>
<tr>
<td>Hydro Energy</td>
<td>43,262</td>
</tr>
<tr>
<td>Energy Consumption</td>
<td>13,752</td>
</tr>
<tr>
<td>Energy Gap (+/-)</td>
<td>28,835</td>
</tr>
</tbody>
</table>

Source: Table compiled by the author using data from Economic Commission for Latin America and the Caribbean – CEPALSTAT.

In general, as it is observed in this country analysis, Brazil is more focused on the production of oil from the pre-salt basins. Argentina has vast potential for the development of shale gas, but the current economic and political systems of the country prevents it from developing a higher scale. Paraguay is more focused on the hydroelectric production. These differences show different goals that could prove difficult in application of the agreements reached on energy policy within the regional block.

Policy diffusion framework

This analysis on shale gas in MERCOSUR is based on the policy diffusion framework, specifically in the regional diffusion model that mentions countries are influenced by geographically proximate countries. The regional block is seen as an opportunity for regional policy diffusion, where the policy objective should be common and coordinated.

Regarding the energy policy in the region, it is observed that within MERCOSUR, goals exist to promote energy integration; however the implementation and effectiveness are not observed in the long run because there are marked differences among the countries in the block, which could be seen as the structural and political asymmetries. Countries show different objectives regarding the development of their energy matrix,
as they focus on their own goals rather than the regional aims. This weakens any integration process to the extent that agreements are difficult to reach in practice because of the different contexts observed in each country.

As seen in the summary table, differences in economic indicators show that Brazil and Paraguay are stable economies with open markets and potential environments for private investment, while Argentina is less open and shows more volatility in the economy; however it has more potential for public investment. In energy sources, Argentina and Brazil show more potential in oil, gas, hydroelectric, and shale gas, while Paraguay is limited to hydroelectric energy sources and its potential shale gas. Considering the region, Argentina and Brazil take the lead in promoting policies in the region because of the size of their economy, population, and territory.

At the same time, considering the structural and political asymmetries existing among countries in the region, the policy framework of the Leader-Laggarg model seems appropriate to consider also. This model notes that some countries are pioneers in the adoption of a policy, and other countries follow these leaders. In the Latin American region, it is observed that Argentina and Brazil take the lead as promoters of policies, especially in the energy sector where they have larger resources and capability for public and private investment. In the regional block, if Argentina and Brazil take the lead in the promotion of shale gas, the objectives could be seen in the medium run, and development could happen at faster rate than it is happening now. Currently their interests are focused on other resources and internal issues rather than a regional goal.

Table 3. Energy matrix MERCOSUR – Summary

<table>
<thead>
<tr>
<th>Economic Indicators</th>
<th>Argentina</th>
<th>Brazil</th>
<th>Paraguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroeconomic Stability</td>
<td>X</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Open Market</td>
<td>X</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Public Investment potential</td>
<td>•</td>
<td>•</td>
<td>X</td>
</tr>
<tr>
<td>Private Investment potential</td>
<td>X</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Stated-own companies - Monopoly</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>
Policies and Politics: Assessing Shale Gas in Latin America

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Oil</th>
<th>Natural gas</th>
<th>Hydro electric</th>
<th>Shale gas potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Energy Policy</th>
<th>Policy diffusion</th>
<th>Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Compiled by the author based on the research of this paper.

Final Comments

This paper focused on the potential of shale gas in Latin America, specifically in Argentina, Brazil, and Paraguay, countries that are members of MERCOSUR and share one of the biggest basins of shale gas in Latin America.

The potential development of shale gas in the region is subject to the different characteristics of the countries and the asymmetries observed in the political and economic structures, that poses a risk to development of shale gas in the region. There are clear objectives on energy integration among countries but the policy diffusion is very low because countries are more focused on their internal development and not the development as a regional group.

The future of Shale Gas in Latin America is promising, but clear rules must be drawn in legislation and regulation to be developed successfully, and countries like Argentina and Brazil should take the lead in promoting clear goals that could be beneficial for the regional block in the medium and long run.
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Social Spending Amidst Ethnic Diversity: A study of income redistribution policies in South Africa

Jessica Kuntz

Abstract

Existing literature identifies an inverse relationship between a state’s level of social welfare spending and ethnic diversity, pointing to low levels of social capital and public trust as the casual mechanism. Post-apartheid South Africa, however, defies this trend: beginning in 2000, the state invested increasingly amounts in social spending programs such that, in 2013, 1 in 3 citizens received a government grant. This paper examines and seeks to explain this phenomenon in light of South Africa’s high level of ethnic heterogeneity, looking in particular at national trends in social capital and the advantages afforded by a one-party system.

Multiethnic states have not fared especially well in recent decades. Yugoslavia, arguably Europe’s most prominent multiethnic experiment, imploded in the early 1990s with an estimated death toll in excess of 140,000.1 Czechoslovakia and the Soviet Union are two other recent examples that leave us pessimistic about the long-term viability of ethnically heterogeneous nations. Yet, in spite of such prominent failures, multiethnic states remain surprisingly commonplace in the 21st century, both in the developed world (Canada, the United States) and the less developed world (Iraq, Pakistan, and numerous African nations). As globalization produces an increasingly free flow of labor, we can only expect such diversity within borders to increase, as Western European states can attest. Robert Putnam calls ethnic and social heterogeneity “one of the most important challenges facing modern societies, and at the same time one of our most significant opportunities.”2
Given that multiethnic states are an inevitable reality of the current era, it is well worth taking a closer look at the unique limitations they operate under, as well as their structural opportunities for growth and innovation. Of the latter, the literature identifies increased innovation, skill differentiation, creativity and the possibility of increased trade between countries based on shared ethnicity amongst the benefits associated with diversity. This comes at a cost: heterogeneous states must also contend with challenges in communication, greater disagreement on public policy and public good provision and less interpersonal trust.

As a consequence of the latter, there exists a consensus in the literature that multiethnic states and communities spend less on public goods and social services than do their homogenous peers. A wide collection of data, spanning local communities in the United States and ethnically varied African nations, proves convincing in this regard. However, we contend that the inverse relationship between ethnic heterogeneity and social spending is not an inevitable one. Contrary examples, such as South Africa and Belgium, offer divergent evidence that multiethnic states can successfully engage in social spending with the aim of redistribution. South Africa, geographically beyond the historic democratic corporatist traditions of Europe offers a particularly interesting case study, as identified by Katzenstein in 1985. In the effort to better understand the conditions under which multiethnicity retards social spending, this paper applies a deviant case study methodology in order to identify the circumstances and features that have enabled South Africa to defy the trend predicted for heterogeneous states, so much so that the Brookings Institute, in 2011, noted that “the country now possesses one of the best developed social protection systems amongst all middle income economies.”

As Seawright and Gerring explain, “the purpose of a deviant case analysis is usually to probe for new – but yet unspecified – explanations.” The deviant case study can be applied both to disconfirm a previously accepted hypothesis and/or to identify a new causal factor applicable to other cases. It is therefore, a fitting methodology to utilize when “a body of
theory is fairly well developed and substantial evidence has confirmed it,\textsuperscript{8} as is the case here. It is our hope that this analysis will yield deeper insight into the factors that impede ethnically heterogeneous states in social spending and the conditions in which they can be overcome. By presenting a case that is counterfactual to the dominant theory found in the literature, a highly multiethnic state that has seen a significant rise in social spending, this paper turns the question on its head by asking: what factors encourage welfare spending in heterogeneous states?

The remainder of the paper proceeds as follows: Part 1 reviews the existing literature with a critical eye towards the causal mechanisms that are offered to explain the lower levels of social spending present in multiethnic states. Part 2 explores the extent and scope of South African social spending, drawing upon existing theory to explore the possibility that increased trust and social capital might explain the upsurge in social spending. Part 3 tests the explanatory power of trust and public capital in the South African case by operationalizing several measures of public trust with data from the World Values Survey and finds the explanation lacking. Subsequent comparison of elite attitudes suggests that elite pursuit of embeddedness in the context of a one party dominant system can generate substantial redistributive social spending in the face of ethnic heterogeneity. Part 4 concludes with policy implications for South Africa and other multiethnic states.

**Part 1: The multiethnic curse?**

In an era characterized by big government, multiethnic demographics appear to act as a decisive counter on the tendency towards increased domestic spending. Indeed, the downward pressure holds true across the various sectors of social spending in which governments typically engage: education,\textsuperscript{9} health\textsuperscript{10} and spending transfers.\textsuperscript{11}

Though the aggregate data is convincing and grounded in empirical evidence, the causal mechanisms that have been offered to date are insufficiently developed. The majority of analysis has pointed to individual
preferences, with individuals characteristically more supportive of redistribution when people of their own ethnic group are the recipients. The implication for the welfare state is what David Goodhart terms a 'progressive dilemma':

“the basis on which you can extract large sums of money in tax and pay it out in benefits is that most people think the recipients are people like themselves, facing difficulties which they themselves could face. If values become more diverse, if lifestyles become more differentiated, then it becomes more difficult to sustain the legitimacy of a universal risk-pooling welfare state. People ask, ‘Why should I pay for them when they are doing things I wouldn’t do?’ … Progressives want diversity but they thereby undermine part of the moral consensus on which a large welfare state rests.”

Indeed, this lack of sameness is identified as the primary causal mechanism in Alesina, Glaeser and Sacerdote’s (2001) endeavor to explain why the U.S., in contrast to Europe, lacks a strong welfare state. Of the possible economic, political and behavioral explanations presented, the authors ultimately find the latter to be the most convincing, pointing in particular to the strong linkage between race and poverty in America and the lack of altruism between Americans of different races. While this may be true in the United States, with its unique history of race relations and tensions, the presumption that peoples’ primary association will be with their racial or ethnic group (as opposed to their educational or economic peer group) is not universally true. To this point, Canada as often pointed to as a counter to the U.S. given its higher level of social welfare spending. Our examination of the South Africa case affirms Banting’s assessment that there exist “a variety of relationships between immigration, multiculturalism and the welfare state. Different narratives confirm that there is no inevitability at work, that the future is open, and that policy choices count.”

As our data for South Africa will show, redistributive social spending programs were
implemented under conditions of low and largely unchanging levels of trust and social capital. This finding reveals an oversight of the literature in failure to address how multiethnic countries might surmount the difficulties they face in instituting social spending programs. It also undermines the literature’s casual mechanism, suggesting that while social capital is *conducive* to social spending, it is not necessary.

**Part 2: South Africa as an outlier**

In Alberto Alesina’s measure of fractionalization, which helpfully distinguishes between ethnic, religious and linguistic fractionalization, South Africa receives an ethnic fractionalization score of .7517, making it the 24\(^{th}\) most ethnically heterogeneous of 214 countries and regions measured.\(^{16,17}\) Though not free of valid criticisms, this index is amongst the most thorough available in the endeavor to measure a highly multifaceted concept. Furthermore, South Africa’s high placement on James Fearon’s index of ethnic diversity (number 8 of 159 countries), an alternate measure, allows us to say with confidence that South Africa is a highly heterogeneous state.\(^{18}\)

For the better part of the post-WWII era, South Africa maintained low levels of social spending that was minimally redistributive in design. In conformity with the nation’s Apartheid policy\(^{19}\), whose stated goal was the separate development of the races, welfare benefits predominantly benefitted white citizens. The division of white, black and Indian social welfare under the Department of Social Welfare, Departments of Bantu Administration and Coloured Affairs and the Department of Indian Affairs respectively, left blacks with the greatest need and smallest portion of the welfare budget.\(^{20}\) Although the racial nature of South Africa’s governance structure later earned the virulent condemnation of the developed world, its segmented welfare system of this era varied little from other LDCs that opted for an import substitution model of development. ISI generated a privileged working and middle class that benefitted from state provided protections designed to insulate the better off of society, rather than to engage in redistribution.\(^{21}\) Apartheid era South Africa was
unique only in that its ‘better off’ were identified on explicitly racial lines.

The rise to power of the African National Congress (ANC) in 1994 brought monumental changes for the country, but initially little in the way of social welfare policy, outside of a largely rhetorical but oft celebrated guarantee of social welfare in the 1996 Constitution. From 1996-2000, the new government operated under the so-called Growth, Employment and Redistribution (GEAR) plan which emphasized neoliberal economic policies, including deficit reduction (incurred under the previous Apartheid government) and fiscal constraint so as to rebuild South African credibility on the global financial markets. It was not until the turn of the century that South Africa undertook large social welfare reforms that defied the predicted trend by steadily increasing the sums devoted to social spending. The gradual shift of resources has had significant effects, such that in 2012, South Africa devoted 58% of its national budget to social spending, with the Health, Social Development and Education departments identified as the largest recipients. In 2000, those combined departments had accounted for only 17% of total government spending. For the purpose of this paper, we will focus on the spending transfer activities of the Department of Social Development (previously know as the Department of Welfare), rather than education or health spending. Education reforms have focused on achieving a more equal distribution of resources rather than an increase in aggregate funding, correcting the Apartheid era status quo whereby the state expenditure per white student was 5 times that of a black student. This shift in priorities does not reveal itself in aggregate spending measures. Meanwhile, a large portion of new health expenditures have been devoted to AIDS/HIV treatment, which afflicts an estimated 17.8% of the population. In contrast, spending on social grants has been widely redistributive, with an estimated 1 in 3 South Africans receiving government provided grants in 2013. In 2000, the budget for the Department of Welfare stood at a meager 366 million rand. By 2013, the budget for the renamed Department of Social Development had surged to 137.6 billion rand, or a full 7% of total government spending.
The most wide reaching grants are the Old Age Pension, the Disability Grant and the Child Support Grant. All three are means tested. In the calendar year spanning 2012/13, 2.9 million people received the Old Age Pension, 1.2 million received the Disability Grant and 11.4 million received the Child Support Grant. The Child Support Grant, in particular, has experienced significant expansion over time as the age limit, set at 7 years old when the program was begun in 1998, has since been raised to 18.

An examination of the poverty statistics since these programs were implemented verifies that South Africa is, in fact, reaching the poor and living up to its redistributive rhetoric: in 1995, a year after the ANC took power, 31% of South Africans were living below the national poverty line. By 2000, the timeframe in which a number of grant policies were launched, that number had risen to 38%. By 2006, the number had dropped to 23%. Further evidence that the grants are, in fact, reaching the very poor, can be seen in the decline of those living on less than $2 and $1.25 a day (see Table 1). While the numbers remain high by the standards of a middle-income country, the reductions of 22% and 47% respectively, between 2000 and 2009, are validation of the redistributive nature of South Africa’s social grant policies. Additionally, Agüero (2006) finds that the Child Support Grants, the grant with the largest number of beneficiaries, has produced a measurable improvement in child nutrition as measured by height-for-age.

Existing theory might respond that the post-Apartheid South African state has overcome the challenge that underlies the inverse relationship between diversity and social spending by building a strong sense of national identity and trust between groups. If so, South Africa would reinforce the standing assumption that trust is necessary for social spending and would offer a highly valuable case study of a country that has overcome its discordant history to build the ever-elusive interracial trust. However, as we will see in the subsequent section, cross-temporal measurements of trust and social capital indicate that, contrary to predictions, social spending can exist in the face of low levels of social
trust. The question then becomes what other factors have been influential in South Africa’s budgetary shift.

**Part 3: Methodology & Analysis**

In accordance with the structure of deviant case study analysis, we will first test the relevance of commonly accepted explanations (levels of trust and social capital) to the South African case. Finding these variables to be an insufficient explanation, we then explore other possible causal factors with the aim of identifying features that may have broader relevance beyond the borders of South Africa.

To undertake the first phase of the analysis, we must operationalize trust and social capital in a way that allows us to compare them over time. While both variables are widely recognized as critical concepts in the study of civil society and democracy, there exists no consensus on how to measure them, not least because researchers are largely confined by the variability of data on a country-by-country basis. The World Values Survey (WVS) is notable for its global scope and periodic iterations, generating data concerning the dynamic evolution of public values. Although there is some variation in the questions included in the various survey waves, thereby limiting the possibility for direct comparison, South Africa’s participation in the 1990, 1995, 2000 and 2005 waves of the WVS provides us sufficient data from which to draw conclusions about the evolution of social capital and public trust in South Africa. Using data from the above four waves, we operationalize social capital with the conventional measurement of organizational membership. Given that a strong and widespread sense of national identity will lend itself to higher levels of social capital, we also use questions regarding national pride and group identification to further operationalize social capital. Trust is operationalized through a question concerning the general trustworthiness of people.
Social Capital: Organizational membership, national pride and group identification

Robert Putnam has argued that social capital is built through networks, and is therefore measurable through participation rates in such organizations as Bible study groups and parent teacher associations. Putnam’s insight has led many researchers to focus on levels of organizational membership as an indicator of social capital, prompting concerns about low levels of membership in post-Communist Eastern Europe (and its inimical consequences for civil society and democracy) and declining organizational membership in the US, amongst other trends. The WVS includes a series of questions concerning membership to a variety of organizations. While the data distinguishes between active and non-active membership, we are only interested in the former as non-active membership involves little of the interaction from which social capital develops.

Calculating the average organizational membership provides a sufficient, if simplified, measurement for comparison. In 1995, South Africa’s average organizational membership was 15.64%. In 2005, the number was 13.25%. Interestingly, both of these numbers are significantly higher than the sample average for the 2005 WVS (8.92%), the Western European average (9.59%) and the Organisation for Economic Co-operation and Development (OECD) average (10.16%) for the same period, as seen in Figure 1. While consistent with findings about declining organizational membership in Europe, this data runs contrary to theories that predict lower levels of organizational membership in heterogeneous communities.

We should treat this data with some caution however: a large portion of South Africa’s membership rate comes from membership to church/religious organizations (58.4% in 1995 and 51.1% in 2005). As church congregations are notorious for their homogeneity, reinforcing interaction with one’s own group, the social capital building capacity of church/religious membership is limited. To put this in Putnam’s
terminology, churches produce ‘bonding’ rather than ‘bridging’ social capital that occurs within, not between, communities. If we remove church/religious membership from the calculation for average organizational membership, South Africa is more consistent with global, West European and OECD averages, as seen in Figure 2: South Africa 1995 – 9.16%, South Africa 2005 – 7.57%, sample average 2005 – 6.64%, Western European average – 8.22%, OECD average – 8.27%. Using organizational membership as a proxy for social capital, South Africa scores on par with OECD and European countries, though one may argue that it performs better than expected in light of its multiethnic demographics. Comparing the two cross-temporal South African data points, we see a moderate decline in organizational activity between 1995 and 2005, both with and without church/religious organizational membership. Unfortunately, data is not available to compare these post-Apartheid membership rates to rates in the Apartheid era – were we to find 1995/2005 levels of participation were comparatively higher than Apartheid era levels, we could better posit a correlation between membership rates and social spending.

Our measure concerning pride in nationality is encouraging for social capital prospects. In the 1990, 1995, 2000 and 2005 waves respondents were asked “How proud are you to be South African?” (Figure 3). Grouping the top two and top bottom categories together we see an upsurge in national pride following the abolition of Apartheid which has held steady in subsequent years: 80.9% expressed pride in their country in 1990, as compared to 96.5% in 1995, 94.9% in 2000 and 96.2% in 2005.

The results of the question “To which of these geographical groups would you say you belong first of all?” (posed in the 1990, 1995 and 2000 surveys) reinforce, albeit to a lesser extent, this observed increased sense of national identity (Figure 4). The number of respondents identifying primarily with country jumped by 11% between 1990 and 1996 (largely at the expense of locality and region), although it dropped slightly in 2000. Both pride in country and sense of national identity are relatively strong across the time period for which data is available. The
upward trend observed between 1990 and 2005, however, is slight. The post-apartheid era is not characterized by significantly higher levels of national identity/pride than was the pre-apartheid era.

Viewed collectively, data on organizational membership, national pride and identity fails to offer us a decisive conclusion about trends in social capital. Although we see a general increase in national identity and pride in the post-apartheid era, these gains appear to have been concentrated in a one-time increase. Excluding church membership, South African participation in organizations is on par with sample, West European and OECD averages which, while better than we might have predicted, is not sufficiently explanatory. Given these mixed trends, we fail to discern a decisive upsurge in social capital that would, according to existing theory, explain South Africa’s high levels of social spending.

Public Trust & Support for Income Redistribution

The explanatory power of existing theory is further called into question by the WVS data on trust, which suggests that abstract levels of national identity and pride do not translate into increased trust between groups that is presumed to be so crucial for social welfare spending. When asked “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?,” the portion of respondents expressing general trust in people actually dropped from 1990 to 2000, although it did recover somewhat (though still not to 1990 levels) in 2005 (Figure 5). Such results strongly suggest that, in the case of South Africa, increased social spending has occurred under low (and even declining) levels of social trust.

The 2005 survey included another question that, while not relevant to social capital and trust, reinforces the predicted public aversion of ethnically heterogeneous communities to social spending. Respondents were given a set of statements and asked to respond on a 1 to 10 scale, in which 1 indicates complete agreement with the first statement and 10
indicates complete agreement with the second. The question of interest is as follows: “Incomes should be made more equal vs. We need larger income differences as incentives.” The mean response of 5.5 reveals a near equal split between those favoring (1-5) and those opposing (6-10) income redistribution. Despite the strikingly high levels of inequality that continue to characterize South African society, public support for income redistribution is hardly resounding. A breakdown of support by gender, age, education level, and employment status (see Appendix B for full table) shows little variation on the basis of gender or age. Higher levels of education appear to reduce support for income redistribution, although at a diminishing rate once secondary education is reached. Most surprisingly, there is little difference in support based on employment status. The self-employed display a slighter higher aversion to income redistribution, but unemployed persons, employed persons, students, retirees and housewives all display levels of support on par with the national average.

The low levels of support for income redistribution evident here reinforce what theory would predict: in the face of high levels of distrust and unremarkable levels of social capital as measured by organizational membership, there are low levels of public support for redistributive spending. Yet, as we have seen, South Africa has committed increasing portions of its federal budget to social spending, most significantly in the form of spending transfers. We now turn out attention to the factors that enabled the ANC government to overcome low trust levels and social capital associated with heterogeneity.

The Decisive Role of Elites:

Though democracy and social spending are often found to be correlated,\textsuperscript{34} South Africa’s unchanging Polity IV score post-1996 (timed roughly with the passage of South Africa’s democratic constitution) would lead us to incorrectly predict an increase in social spending beginning in 1996. Development strategies, frequently offered as an explanation for the structure of a country’s social spending,\textsuperscript{35} fails to explain a relatively sudden shift in social spending, such as South Africa displays. Rather, we
argue that elite attitude and behavior offers a feasible explanation of South Africa’s social spending surge.

To institutionalize elite attitudes, we utilize a data set produced by The Centre for International and Comparative Politics at the University of Stellenbosch. Since 1990, the Centre has conducted a series of seven surveys in elites’ values and attitudes, each survey with a different focus and utilizing Putnam’s definition of elites as “those persons who hold authoritative position in powerful public and private organizations and influential movements and who are therefore able to affect strategic decision regularly.” This definition yields a focus on five groups of elites: parliamentarians, church leaders, civil servants, the media and leaders in business. The most recent Elite Values Survey, conducted in 2007 with a focus on democratic consolidation and quality, provides data most relevant to the topic at hand.

As social capital is a phenomenon specific to the public, it does not make sense to test it for the elite. Elite trust levels however, which are shown to be higher than amongst the general public, might influence policy formation. When asked the same question as was posed during the WVS (“Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?”) 67.3% of elites indicated agreement with the second statement, as compared with 80.6% of the public. This divergence, however, is less stark than the measurement presented in Figure 6. Groups of elites and the public were given a list of seven categories and asked whether they would trust people from that group. Given our focus on ethnic heterogeneity, the results of ‘different race,’ are particularly interesting and stark: 83.8% of elites that they would ‘trust completely or somewhat’ individuals of a different race, as compared to 47.7% of the public.

Greater levels of trust, however, are insufficient to explain why the ANC would pursue a drastic overhaul of government spending that lacks public endorsement. For that we must look to the ANC’s ideological leanings, in particular those of its component parts. The
ruling ANC is actually a tripartite government consisting of the African National Congress (ANC), the Congress of South African Trade Unions (COSATU) and the South African Communist Party (SACP). While the ANC faction has been the driving force behind South Africa’s neoliberal economic reforms, embodied by the Growth, Employment and Redistribution (GEAR) strategy, both COSATU and the SACP identify as left-leaning, socialist organizations. Both have publically expressed reservations about GEAR, although COSATU has had more visible success in its advocacy of compromise legislation, including labor legislation, public service delivery and various social issues. In this sense, the rise in social spending may be best understood as a compromise between the neoliberal reform priorities of the ANC and COSATU’s reservations.

COSATU is a product of its founding principles, as well as its role in the anti-Apartheid movement. Launched in 1985 by a collective of 33 unions, COSATU was founded on a shared opposition to Apartheid rather than a desire to limit benefits to formal sector labor workers. In an analysis of COSATU’s so-called social movement role, Geoffrey Wood characterizes COSATU saying “organizing unionism aims to shift the role of unions from simply servicing members in day-to-day disputes, to one where contestations are broadened into community struggles over questions of social justice.” Although COSATU has a membership of only 2 million, its political program targets organized labor, unorganized labor and the poor alike. Characteristic of its political agenda, COSATU’s 2015 Plan, drafted in 2003, included several goals common to labor: working class leadership, expanded labor organization, etc. But the bulk of its benchmarks demonstrate a broader social scope including “clear measures … to reverse rising unemployment, poverty and inequality … a strong developmental and democratic state is needed to drive a growth and development strategy with a strong redistributive thrust.” Whereas SACP has maintained its socialist rhetoric, which is largely incompatible with the neoliberal reality, COSATU has assumed a center-left posture, positioning itself as an advocate for embeddedness within the Tripartite Alliance.
Yet, the presence of a political group, even one in power, that espouses values and objectives consistent with embeddedness, seems insufficient to guarantee a rise in social spending. In fact, had the ANC been facing robust political competition, it seems less likely that they would have engaged in a large scale social spending program, risking the support of the large corporations and the small percentage of middle and upper class citizens whose taxes fund the redistribution programs. The dominance of the ANC in federal elections from 1994 onward (Table 2) demonstrates the extent to which South Africa is a one party democracy. Although this raises problems for representative government, the absence of viable competition has afforded the ANC the liberty to enact redistributive legislation in a multiethnic environment characterized by distrust and low social capital.

We do not wish to overlook the possibility that there may well be other factors at work in South Africa not discussed here. However, the divergence of elite and public attitudes, evidence of elite embeddedness (most notably in COSATU) and the liberty afforded to the ANC by the one-party dominant political system go a long way in explaining South African social spending.

Part 4: Conclusion

Time-series data drawn from the World Values Survey shows high levels of distrust and unremarkable levels of social capital in South Africa. Yet, the ANC has made significant progress over the last 13 years in implementing social spending programs that reach the nation’s poorest citizens. The implication is that social trust, lacking in South Africa as in many multiethnic countries, is not requisite to the establishment of welfare programs. From this divergent case, we can conclude that there are other factors, which have been omitted from analysis, that can enable multiethnic states to increase the resources devoted to social spending.

Two powerful explanatory factors lie in the values expressed by the political elites and the liberty afforded to the ANC by its unchallenged dominance of the political system. The specific circumstances surrounding
the formation of COSATU – namely Apartheid – are admittedly unique to South Africa. Yet the inclusion of labor in government, as well as the expansion of labor’s agenda to include broader social justice issues, has been seen to occur in differing circumstances and countries. Based on this, we posit that the inclusion of a left-leaning, pro-embeddedness group within government significantly increases the chances of a heterogeneous country engaging in meaningful social spending. While this role may be a natural fit for labor, labor is not necessarily the only group that may fill it. Further, our findings in South Africa suggest that a multiparty democratic system in a multiethnic nations might be associated with lesser social spending – given the public opposition to income redistribution that is characteristic of heterogeneous societies, policies aimed at redistribution are more likely to be implemented under the tutelage of a one-party dominant democracy or, perhaps, a non-democracy. It is worth further research to see whether this unexpected finding holds true across other multiethnic communities.

Many country experts have offered policy recommendations to South Africa centered on the need to reduce unemployment and inequality. Our paper did not delve into the shortcomings of South Africa’s social spending programs, but it is indisputable that poverty relief in the form of government grants for one third of the population is a poor substitute for economic growth. Despite its commendable achievements in increasing redistributive social spending, a country with an unemployment rate of 24.4% and a Gini score of 63 must beware of treating welfare as a sufficient substitute for growth and jobs.

Given rising levels of diversity resulting from global migration, our findings hold policy relevance for a large number of nations in the developed and less developed world alike. While it is feasible that the experience of previously homogeneous states with preexisting welfare systems will differ in key ways from that of South Africa, they are likely to face declining levels of public support for income redistribution, weakening the link between the median voter effect and high levels of social spending. Given the political sensitivity of the issue in heterogeneous communities,
social spending is more likely to endure if it is placed under the control
of technocrats rather than politicians. The minimum wage policy in the
United States, offers a good and timely example. On the national level, a
raise to the minimum wage requires approval by Congress, making it an
infrequent and politically charged event. In contrast, Washington State
requires the State Department of Labor & Industries to make a cost-of-
living adjustment to the minimum wage each year based on the federal
Consumer Price Index. The latter approach depoliticizes the issue,
insulating it from potentially hostile public opinion.

Whether high levels of ethnic diversity contribute to the race to
the bottom is an open-ended question. Two viable routes exist that might
facilitate the coexistence of heterogeneity and social spending. The first is
the promotion of inter-group trust and social capital, a strategy fraught
with challenges but, given the centrality of social capital to democracy,
nonetheless worth attempting. The second concerns elite values and resolve
and requires the recognition of embeddedness as paramount to growth and
stability.

Figure 1

![Graph showing organizational membership rates](image)

Data: World Values Survey 1995, 2005

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Social Spending Amidst Ethnic Diversity

Figure 2

Data: World Values Survey 1995, 2005

Figure 3

Data: World Values Survey
Figure 4

To which of these geographical groups would you say you belong first of all?

Data: World Values Survey

Figure 5

General Trust in People

Data: World Values Survey
Figure 6

Data from Kotze & Steenkamp 2008
Table 1
Data: World Bank Development Indicators

<table>
<thead>
<tr>
<th>Year</th>
<th>% South Africans living on less than $2/day</th>
<th>% South Africans living on less than $1.25/day</th>
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<tbody>
<tr>
<td>2000</td>
<td>42.9%</td>
<td>26.2%</td>
</tr>
<tr>
<td>2006</td>
<td>35.7%</td>
<td>17.4%</td>
</tr>
<tr>
<td>2009</td>
<td>31.3%</td>
<td>13.8%</td>
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</table>

Table 2

<table>
<thead>
<tr>
<th>Election Year</th>
<th>% ANC votes</th>
<th>% of votes to party receiving 2\textsuperscript{nd} most votes</th>
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</thead>
<tbody>
<tr>
<td>1994 general election</td>
<td>62.6%</td>
<td>20.4% (National Party)</td>
</tr>
<tr>
<td>1999 general election</td>
<td>66.4%</td>
<td>9.6% (Democratic Party)</td>
</tr>
<tr>
<td>2004 general election</td>
<td>69.7%</td>
<td>12.4% (Democratic Alliance)</td>
</tr>
<tr>
<td>2009 general election</td>
<td>65.9%</td>
<td>16.7% (Democratic Alliance)</td>
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</table>
APPENDIX A:

World Values Survey Data:

“How proud are you to be South African?”

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Very Proud</td>
<td>64.30%</td>
<td>82.70%</td>
<td>74.90%</td>
<td>78.40%</td>
</tr>
<tr>
<td>Quite Proud</td>
<td>26.60%</td>
<td>13.80%</td>
<td>20.00%</td>
<td>17.80%</td>
</tr>
<tr>
<td>Top 2 categories combined</td>
<td>90.90%</td>
<td>96.50%</td>
<td>94.90%</td>
<td>96.20%</td>
</tr>
<tr>
<td>Not very proud</td>
<td>7.60%</td>
<td>3.10%</td>
<td>3.20%</td>
<td>3.50%</td>
</tr>
<tr>
<td>Not at all proud</td>
<td>1.60%</td>
<td>0.50%</td>
<td>1.90%</td>
<td>0.30%</td>
</tr>
<tr>
<td>Bottom 2 categories combined</td>
<td>9.20%</td>
<td>3.60%</td>
<td>5.10%</td>
<td>3.80%</td>
</tr>
</tbody>
</table>

“To which of these geographical groups would you say you belong first of all?”

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>1996</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locality</td>
<td>37.50%</td>
<td>32.60%</td>
<td>30.10%</td>
</tr>
<tr>
<td>Region</td>
<td>18.20%</td>
<td>14.60%</td>
<td>13.50%</td>
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<tr>
<td>Country</td>
<td>33.00%</td>
<td>44.00%</td>
<td>42.30%</td>
</tr>
<tr>
<td>Continent</td>
<td>6.50%</td>
<td>4.00%</td>
<td>6.20%</td>
</tr>
<tr>
<td>The world</td>
<td>4.80%</td>
<td>4.80%</td>
<td>7.90%</td>
</tr>
</tbody>
</table>

Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?”

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Most people can be trusted</td>
<td>28.30%</td>
<td>18.20%</td>
<td>11.80%</td>
<td>18.80%</td>
</tr>
<tr>
<td>Can’t be too careful</td>
<td>71.70%</td>
<td>81.80%</td>
<td>88.20%</td>
<td>81.20%</td>
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</tbody>
</table>
“Incomes should be made more equal vs. We need larger income differences as incentives.”

<table>
<thead>
<tr>
<th>(Incomes should be made more equal)</th>
<th>16.60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>9.00%</td>
</tr>
<tr>
<td>3</td>
<td>6.00%</td>
</tr>
<tr>
<td>4</td>
<td>6.20%</td>
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<tr>
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<td>6</td>
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<tr>
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</tr>
<tr>
<td>9</td>
<td>9.00%</td>
</tr>
<tr>
<td>(We need larger income differences as incentives)</td>
<td>14.20%</td>
</tr>
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</table>

APPENDIX B:

Break down of support for income redistribution by age, level of education, employment status and gender.

<table>
<thead>
<tr>
<th>Incomes should be made more equal</th>
<th>Total</th>
<th>15-29 years</th>
<th>30-49 years</th>
<th>50+ years</th>
<th>Male</th>
<th>Female</th>
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<tbody>
<tr>
<td></td>
<td>16.60%</td>
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<td>16.20%</td>
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<td>8.60%</td>
<td>9.30%</td>
<td>9.30%</td>
<td>9.20%</td>
<td>8.80%</td>
</tr>
<tr>
<td>3</td>
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<td>5.20%</td>
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<td>6.20%</td>
<td>5.80%</td>
</tr>
<tr>
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<td>10.10%</td>
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<tr>
<td>6</td>
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<td>11.30%</td>
<td>9.00%</td>
<td>7.70%</td>
<td>9.20%</td>
<td>10.00%</td>
</tr>
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<td>8.20%</td>
</tr>
<tr>
<td>8</td>
<td>10.90%</td>
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<td>7.10%</td>
<td>9.50%</td>
<td>8.50%</td>
</tr>
<tr>
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<td>9.00%</td>
<td>9.30%</td>
<td>9.70%</td>
<td>7.10%</td>
<td>9.50%</td>
<td>8.50%</td>
</tr>
<tr>
<td>We need larger income differences as incentives</td>
<td>14.20%</td>
<td>15.60%</td>
<td>13.40%</td>
<td>12.90%</td>
<td>13.00%</td>
<td>15.40%</td>
</tr>
<tr>
<td>Mean</td>
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<td>5.6</td>
<td>5.3</td>
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### Employment Status

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<th>Employed Part time</th>
<th>Self employed</th>
<th>Retired</th>
<th>Housewife</th>
<th>Student</th>
<th>Unemployed</th>
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<tbody>
<tr>
<td>16.60%</td>
<td>16.80%</td>
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<td>9.90%</td>
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</tr>
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<td>6.80%</td>
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<td>10.10%</td>
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<td>4.90%</td>
<td>9.80%</td>
</tr>
<tr>
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<td>6.10%</td>
<td>7.40%</td>
<td>5.70%</td>
<td>5.70%</td>
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<td>4.50%</td>
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</tr>
<tr>
<td>4</td>
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<td>3.80%</td>
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<td>4.60%</td>
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<td>7.60%</td>
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</tr>
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<td>9.10%</td>
<td>8.50%</td>
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<td>13.00%</td>
<td>11.50%</td>
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<td>4.80%</td>
<td>5.30%</td>
<td>11.50%</td>
<td>8.70%</td>
</tr>
<tr>
<td>We need larger income differences as incentives</td>
<td>14.20%</td>
<td>14.70%</td>
<td>12.00%</td>
<td>12.70%</td>
<td>14.60%</td>
<td>11.90%</td>
<td>17.50%</td>
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</tr>
<tr>
<td>Mean</td>
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<td>5.7</td>
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<td>5.4</td>
<td>5.4</td>
<td>5.7</td>
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</table>
## Social Spending Amidst Ethnic Diversity

### Level of Education

<table>
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<th>No formal education</th>
<th>Completed elementary education</th>
<th>Completed secondary (technical or vocational)</th>
<th>Complete secondary (preparatory/maturity level)</th>
<th>Some university (no degree)</th>
<th>Completed university</th>
</tr>
</thead>
<tbody>
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<td>4.90%</td>
<td>7.80%</td>
</tr>
<tr>
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<td>-</td>
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</tr>
<tr>
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<td>3.30%</td>
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<td>18.90%</td>
<td>7.50%</td>
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<td>6.40%</td>
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</tr>
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<td>4.70%</td>
<td>9.30%</td>
<td>10.30%</td>
<td>9.00%</td>
<td>8.90%</td>
<td>13.80%</td>
</tr>
<tr>
<td>We need larger income differences as incentives</td>
<td>14.20%</td>
<td>6.40%</td>
<td>6.90%</td>
<td>23.40%</td>
<td>17.40%</td>
<td>8.10%</td>
<td>17.20%</td>
</tr>
<tr>
<td>Mean</td>
<td>5.5</td>
<td>4.7</td>
<td>5.2</td>
<td>6.8</td>
<td>5.7</td>
<td>6.8</td>
<td>6.7</td>
</tr>
</tbody>
</table>
References

As a point of reference, Uganda, with a score of .9302 represents the most ethnically fractionalized state in Alesina's index. The United States has a score of .4901, while the United Kingdom has a score of .1211.


For those not well versed in South African history, it is helpful to note that Apartheid is the Afrikaans word for ‘separateness’ – although applied to a greater extent, the policy was conceptually similar to that of ‘separate but equal’ in the United States.


CIA World Fact Book.


World Development Indicators, World Bank.

The WVS conducts and publishes surveys on a 5-year timeframe. However, data collection often occurs outside of the given time window: in the case of South Africa, data collection occurred during 1990, 1996, 2001 and 2007. To avoid confusion, we follow convention and refer to the surveys based on the wave year.


The list includes churches/religious organizations, sports organizations, arts/music/education organizations, labor unions, political parties, environmental groups and charitable/humanitarian groups. Respondents may also identify themselves as active in an ‘other’ organization that does not fit the previous classifications.

We calculated the average organizational membership by weighting each type of organization equally. So, if 20% of respondents reported that were active member of a sports organization and 10% reported active membership in labor unions, the average organizational membership would be 15%. Were a single respondent to report membership to more than one type of organization, he/she would be double counted with this methodology.
Note that currently available data from the 2005 wave of the WVS only includes 57 countries (available in Appendix A). Therefore, our data concerning average organizational membership reflects only a portion of global, Western European and OECD nations.


The breakdown by elite groups for trust of people of different race is as follows: 92% of church elites, 90.2% of media elites, 82.3% of business elites, 80% of parliamentarians and 78.4% of civil servants.

This public response spanned all races but was particularly prominent amongst blacks. 56% of blacks, 35% of Indians, 33.8% of whites and 33.7% of colored replied that they wouldn't trust a person of a different race 'very much or at all.'


CIAT World Factbook.

World Development Indicators, World Bank.


The Effect of Income on Pothole Fix Time in Chicago

By Ellie Newman

Introduction

Few urban infrastructure problems are as obvious—and annoying—as potholes in city streets. They slow traffic, can damage cars, and grow larger every month they remain unfilled. Municipal governments have the unenviable task of allocating limited staff and equipment to fill potholes. But how do they figure out which potholes to fill first?

To answer that question, I researched cities that release information on pothole complaints and soon found the city of Chicago’s open data portal. Chicago is a leader in the government open data movement and to date has released over 800 datasets on municipal operations. I downloaded a year’s worth of pothole complaints—80,000 calls about potholes, including the location of the pothole and the date it was fixed—to determine if Chicago fixed potholes in some areas more quickly than in others.

Literature review

There’s not a whole lot of research on pothole filling, probably because compiling data on city services like 311 call responses is a relatively new method of research. However, literature on variations in city service quality does note some differences between socioeconomic status levels. Van Ryzin et al finds that income, race, and trust in government influence citizen evaluation of city services, with low-income, non-white, and skeptical residents more likely to give an unfavorable evaluation.
As different areas of the same city rated services differently, the authors hypothesize this may be due to racial segregation.\(^2\)

In Swindell and Kelly’s 2002 study, the authors examined neighborhoods in 12 different cities. They found low-income residents rated street repair services as lower than the general population.\(^3\) In a 2005 follow-up study, they found that socioeconomic status did cause satisfaction with city services to vary, but not enough to explain all the variation in the model. Their conclusion: service quality must also vary substantially to account for these discrepancies.\(^4\) Because the literature points to race as a significant factor, my research included tests of whether the racial makeup of a neighborhood influences response time.

**Hypothesis**

The hypothesis of this study is that the number of days it takes the city to fix a pothole after a complaint is negatively correlated with the relative wealth of the city ward where the pothole was located. High-income areas typically have more political power than low-income areas, so city officials may feel they could benefit politically by fixing potholes in rich areas quickly while waiting longer to fix streets in poor neighborhood.\(^5\) In turn, residents of poor areas may have less faith that the city cares about their problems, meaning they may be less likely to make repeat calls about the same potholes.\(^6\)

My research question builds on previous research by examining whether dissatisfaction with city services among low-income residents could be explained by worse service quality in poor neighborhoods. This question is important because pothole response time should be a function of the severity of the problem, not the political power of the neighborhood. If street maintenance in low-income areas is being deferred so crews can work in richer areas, this is a bias that should be addressed.

Of course, income alone may not explain much: people who live in richer areas may be more likely to make repeat calls, leading to fast
response times. Severe cold weather and snow were expected to increase response time. Factors that could speed up response time include more complaints from residents, warmer weather, and a smaller backlog of work.

Summary of data

The city makes all data on its 311 calls from citizens available on its open data portal. Data is collected by city officials and updated when actions are taken. Possible measurement error could occur if city workers are under pressure to make Public Works appear more responsive to pothole complaints and change call dates or repair dates. Also, 2011 was the first year Chicago began collecting and reporting pothole data in this format, so there could be some problems with the data, such as data entry errors and incomplete data. Twelve observations were dropped because they did not contain location information; as there were almost 80,000 observations, this will not influence the results. It is impossible to know if other 311 calls were not entered in the system.

Income information was added to the dataset. While income data came from the 2010 U.S. Census, the data was grouped into city wards by a nonprofit research agency, which may have introduced error.

The N in this paper is pothole calls. There were a total of 79,938 calls in 2011; of these, 17,317 were duplicate calls complaining about the same pothole. As income is the initial variable of interest, I created two dummy variables: low income (wards with a median income less than 1 standard deviation below the city-wide median) and high income (more than 1 standard deviation above median). Six wards fell into the low-income category with a median income of less than $27,876, and six fell into the high-income category making more than $50,661. There were 10,994 service calls from high-income wards and 8,386 from low-income wards.
<table>
<thead>
<tr>
<th>Variable/condition</th>
<th>Mean</th>
<th>Std. dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days to fix</td>
<td>11.97</td>
<td>19.18</td>
<td>0</td>
<td>1009</td>
</tr>
<tr>
<td>Low income ward</td>
<td>0.105</td>
<td>0.306</td>
<td>$17,992</td>
<td>$27,649</td>
</tr>
<tr>
<td>High income ward</td>
<td>0.138</td>
<td>0.344</td>
<td>$55,416</td>
<td>$69,366</td>
</tr>
<tr>
<td>Multiple calls</td>
<td>0.217</td>
<td>0.412</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
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<td>67.91</td>
<td>26.65</td>
<td>15.18</td>
<td>99.71</td>
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<tr>
<td>Open requests</td>
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<td>4,120.37</td>
<td>1</td>
<td>72,205</td>
</tr>
<tr>
<td>Multiple calls/low income</td>
<td>0.023</td>
<td>0.15</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Multiple calls/ high income</td>
<td>0.028</td>
<td>0.03</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Because this data was grouped according to ward number, this is a panel data set. The mean is taken across observations.

**Days to fix.** My dependent variable is the number of days it takes the City to fix a pothole after the first 311 call is made. On average, Chicago potholes are fixed in 12 days, but 378 potholes remained unfilled for over 100 days in 2011 and 5 took over a year to fix.

**Low-income wards.** Chicago is divided into 50 wards, with an average median income of $40,260. I created a dummy variable, loincome, that represents wards which a median income of less than $27,876 or one standard deviation below the median. Six wards fall into this category, and 10.5% of the city’s potholes were located in these areas.

**High-income wards.** Wards with a median income of more than one standard deviation above the average were categorized as high income. Median incomes in these wards ranged from $55,420 to $69,370.

**Multiple calls.** If citizens make multiple calls complaining about the same pothole, Chicago recorded these as duplicates. This variable represents an increase in pressure to fix potholes on certain streets. While initially I thought high-income areas would be more likely to make multiple calls, the two
areas were almost equal: 20.4% of calls from high-income areas were duplicates, compared to 21.7% from low-income areas.

**Minority percent.** As the literature consistently noted racial differences in satisfaction with city services, I also tested the impact of minority presence in Chicago wards on response times.

**Open requests.** One of the factors that influences response time is the number of open requests. If the City already has a backlog of thousands of potholes to fill, response times will likely decrease. This variable was computed by counting the number of requests already open at the time of each call.

**Multiple calls & high/low income:** These are interaction variables that control for the combined effect of multiple calls and income over and above these variables by individually.

<table>
<thead>
<tr>
<th>Days to fix potholes</th>
<th>Low income</th>
<th>High income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>14.2</td>
<td>11.8</td>
</tr>
<tr>
<td>SD</td>
<td>22.5</td>
<td>20.1</td>
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</table>

<table>
<thead>
<tr>
<th>Single call</th>
<th>Mean</th>
<th>Low income</th>
<th>High income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs: 62,621</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>24.2</td>
<td>21.7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple calls</th>
<th>Mean</th>
<th>Low income</th>
<th>High income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs: 17,317</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SD</td>
<td>4.7</td>
<td>5.3</td>
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</table>

The main takeaway from Table 2 is that income seems to be correlated with the number of days it takes the city to respond to pothole complaints: lower income areas have to wait an average of 14.2 days for a fix, compared to 11.8 days for rich areas—a difference of 2.4 days. If only a single call is made about a pothole, the discrepancy increases to 3.4 days. When multiple calls are made about the same pothole, low- and high-income areas receive the same level of service with only about a 2-day wait.
A t-test on days to fix potholes for low- and high-income areas showed low income is significantly correlated with time to fix ($T=-11.3$, $P=0.0001$). High income had a slight negative effect on days to fix, but was not significant ($P=0.112$). Tests on whether low-income wards were more likely to request fixes during peak times found no significant differences.

**Methods**

While Table 2 shows that low income has a strong correlation with response time, there are many other variables that could muddy the picture. For example, the percentage of minority residents in each ward may impact response times more than income. The number of open requests, whether or not multiple calls were made, and interaction variables of multiple calls and income level could also play a role. Nonlinear relationships also need to be explored.

To analyze how area income affected pothole response time, I developed four regression models that regressed number of days to fix potholes against median income of the ward where the pothole was located. The models were:

1. Base model
2. Adding control variables: high income, effects of 1,000 more open requests, and multiple calls
3. All of the above plus interaction of multiple calls and low income
4. All of the above, clustered by ward
The Effect of Income on Pothole Fix Time in Chicago

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Linear</th>
<th>(2) Linear with controls</th>
<th>(3) Linear with interactions</th>
<th>(4) Linear, clustered by ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income</td>
<td>2.524***</td>
<td>1.551***</td>
<td>1.931***</td>
<td>3.448***</td>
</tr>
<tr>
<td></td>
<td>(0.255)</td>
<td>(0.135)</td>
<td>(0.171)</td>
<td>(0.395)</td>
</tr>
<tr>
<td>High income</td>
<td>0.291**</td>
<td>0.330**</td>
<td>-1.763***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.116)</td>
<td>(0.134)</td>
<td>(0.053)</td>
<td></td>
</tr>
<tr>
<td>+1000 more open requests</td>
<td>3.665***</td>
<td>3.664***</td>
<td>3.620***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
<td>(0.036)</td>
<td>(0.067)</td>
<td></td>
</tr>
<tr>
<td>Multiple calls</td>
<td>-3.740***</td>
<td>-3.239***</td>
<td>-3.869***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.078)</td>
<td>(0.228)</td>
<td>(0.257)</td>
<td></td>
</tr>
<tr>
<td>Multiple calls + low income</td>
<td>-1.870***</td>
<td>-2.262*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.209)</td>
<td>(1.305)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>11.697***</td>
<td>4.276***</td>
<td>4.232***</td>
<td>5.720***</td>
</tr>
<tr>
<td></td>
<td>(0.069)</td>
<td>(0.088)</td>
<td>(0.089)</td>
<td>(0.219)</td>
</tr>
<tr>
<td>Observations</td>
<td>79,937</td>
<td>79,937</td>
<td>79,937</td>
<td>79,937</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.002</td>
<td>0.681</td>
<td>0.682</td>
<td>0.687</td>
</tr>
<tr>
<td>r2_a</td>
<td>0.00167</td>
<td>0.681</td>
<td>0.682</td>
<td>0.687</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

All four models showed that low-income wards have a significant positive effect on the number days to fix potholes. Model 2 shows low income has omitted variable bias: 1000 more pothole requests increases wait time by 3.7 days, while making multiple calls decreases wait time by 3.6 days. The large effects of these two variables decreased the value of the low-income coefficient.

Adding an interaction in Model 3 of low income and multiple calls is important because it decreases days to fix by almost 2 days, over and above the low-income and multiple call variables by themselves. The effect of a high-income ward on response time was most pronounced in Model
4, with a coefficient of -1.7 days. Surprisingly the coefficient was positive in Models 2 and 3. Because Model 4 clusters by ward, it is the strongest model: it has the highest R-squared and the coefficients of the various variables are larger, although the clustering resulted in higher standard error.

Other variables

Surprisingly, minority percent had no significant effects. As the average nonwhite population of low-income wards is 91%, compared to 24% for high-income wards, the low-income variable probably does a good job of capturing any race effects.

The interaction variable of multiple calls/low income was more significant than multiple calls/high income, suggesting that multiple complaints from a low income neighborhood has a greater effect than multiple complaints from a richer area that already has a relatively quick response time. Multiple calls/high income was not included in the above regressions because it was not significant in any models.

Nonlinear tests included adding both a log of median income and median income squared, but neither produced significant effects. Other discarded nonlinear variables include days to fix both squared and logged.

Statistical tests

A Cook’s Distance test for high-leverage outliers revealed only one problematic observation: a pothole that took 1,009 days to get fixed. Deleting that observation raised r-squared values across all four models. The regression table provided does not include that observation.

A heteroskedasticity test of the base regression showed a p-value of 0.0000, so all regressions were run using robust standard errors. The mean VIF for Model 4 (the one with clustered data) was 2.43, but the high
The Effect of Income on Pothole Fix Time in Chicago

income variable returned a VIF of 15.02. Finally, an F-test on Model 4 resulted in an F-value of 273, showing high significance.

Predicting Y given a value of X

In addition to low income, the number of open requests and whether or not multiple calls were made have the most impact on Y (days to fix the pothole). Using the “lincom” command to test predicted pothole response times across Models 2, 3, and 4 revealed some notable differences. Assuming 3,000 current open requests, Model 2 predicted the smallest difference between high and low income neighborhoods: 11.3 and 12.6 days respectively. The difference was slightly more pronounced in Model 3: 11.3 versus 13.0 days to fix.

Varying the number of open requests did not widen or shrink the gap between the two. Using Model 3, multiple calls made a drastic difference: multiple calls dropped response time by 5.3 days for low income neighborhoods, including the interaction between low income and multiple calls, and 3.5 days for high-income wards.

In Model 4, the effects of income are more pronounced. With 3,000 open requests low income areas that make multiple calls can expect to wait 8.3 days for a pothole fix, compared to 5.4 days for high-income wards. With only a single call the low-income ward’s wait climbs to 14.4 days, compared to 9.2 days for richer residents. The amount of open requests has a large impact in this model. Just 1,000 open requests and a single call would drop a rich ward’s wait to 1.9 days, but poor wards would wait 7 days under the same conditions. With 5,000 open requests, rich neighborhoods would wait 16 days and poor neighborhoods almost 22 days. Badgering Public Works with multiple calls would drop wait times to 12.7 and 15.6 days respectively. Clearly, Model 4 shows the most flexibility and as such is probably closer to reality.
Internal validity

The biggest threat to internal validity in this study is omitted variable bias. There are a few omitted variables that could be playing a role. A more sophisticated check on how weather affects days to fix would be useful. For example, data on days of precipitation could be added, and a new variable created to determine whether days of precipitation or inches of precipitation lengthens response time. More precipitation is expected to increase days to fix potholes. Another omitted variable is the amount of traffic in an area: the city might want to fix potholes in high-traffic areas because more cars are affected.

However, sampling problems and reverse causality should not be a problem with this study. My research looked at an entire population rather than a sample: all pothole complaints in 2011. There is a very slight possibility of reverse causality: it could be that Chicago prioritizes fixing roads in rich areas because they are actually in much worse condition than those in poor areas. That explanation does not make much intuitive sense, however, so reverse causality is not a factor in this study. One other potential problem is income variability across wards. It is possible that the median income of each ward is not representative. Follow-up studies should look at the census block level if possible.
Discussion and conclusion

As Figure 1 above shows, low-income neighborhoods face a significantly longer wait to get their streets fixed compared to high-income wards. Making more than one complaint about a pothole reduces that difference to almost zero.

The question asked in the literature review was why low-income residents and minorities are so dissatisfied with city services. This study’s answer is that low-income areas do in fact receive worse service—at least, they did in Chicago in 2011 in the field of street repair.

Of course, whether this finding remains consistent across all cities is still an open question. It could be that 2011 was an aberration and in general Chicago does not provide different levels of service to different income groups. Or, Chicago may be an outlier compared to other large U.S. cities, which may provide the same level of service or even provide better service to poor areas to compensate for poor quality of life there. Finally, the city may have very good reasons to prioritize street fixing in wealthier wards, and compensate by providing other types of services more efficiently in poor areas.

One point in this study’s favor is this is real-world data from a real situation, not a simulation in a lab. This makes the findings more generalizable, but researchers would need to test data from a variety of cities across several years to see if an income effect persists.
References
7  City of Chicago, 2011.
Financial Regulations Post-Crisis And The Macroprudential Approach

By Henry Owens

Executive overview:

The 2008 financial crisis illustrated the devastating impact that systemic risk and financial instability can have on the global real economy. Imbalances in the financial system amplified a housing bubble in the United States into a worldwide recession. In the aftermath, policymakers are seeking to limit the extent of systemic risk and the effects of financial instability. Macroprudential regulations are broadly seen as the avenue to managing these problems, but the novelty of these instruments requires that policymakers assess myriad facets of financial markets and regulatory frameworks. Countercyclical capital buffers could prove to be a key tool for smoothing out the credit cycle and preventing the build-up of systemic risk. More research is needed to ensure that capital buffers interact efficiently with market forces and lead to more desirable outcomes. Stricter capital requirements will impose costs on the banking sector and, as an extension, economic growth is estimated to fall by between 0.05 and 0.15 percentage points per year. Research suggests that countercyclical capital buffers might be successful if they are coordinated with monetary policy. Stricter bank regulations will induce a shift from traditional banking to the unregulated (and growing) shadow-banking sector. Overall, Basel III and macroprudential regulations may make traditional banks safer at the cost of encouraging further growth of shadow banks with ambiguous impacts on financial stability.
Introduction:

The 2007-09 financial crisis and ensuing Great Recession exposed many weaknesses in the financial system and prompted a significant shift in the nature of financial regulations. Excessive leverage and unaccounted-for systemic risk turned a housing bubble in United States into a global financial crisis with dire consequences on the real economy. There is a new policy focus on macroprudential financial regulation, that seeks to limit systemic risk in the financial sector with the ultimate goal of mitigating the negative economic effects of financial instability. Using macroprudential tools, regulators can, theoretically, reduce risk factors in the financial system that micro-level regulations do not address. The Third Basel Accord (Basel III) of the Basel Committee on Banking Supervision establishes more rigorous financial regulatory standards that include many macroprudential measures. The rules will enter into full effect by 2019.

Due to the novelty of the regulatory policies, it is not obvious what long-run impacts they will have. Rules such as higher capital requirements will certainly constrain lending by regulated banks, which is a desired effect following the excessive lending and risk taking that led up to the crisis. However, lending by so-called shadow banks (unregulated, bank-like financial institutions) is on the rise. On the one hand, this may have the positive effect of insulating banks from risk by compartmentalizing different financial activities. On the other hand, the riskier behavior of shadow banks may breed financial instability and lead to another crisis.\textsuperscript{1,2}

During the 2007-09 crisis, many of the largest banks in the United States and elsewhere suffered losses to off-balance sheet activities, yet there was nothing regulators could do beforehand since these banks still maintained the required capital ratios. Basel III seeks to address this problem by increasing the quantity and quality of capital that banks must hold at all times. Furthermore, new rules introduce time-varying, countercyclical capital buffers to force banks to accumulate capital during good times that can be drawn down during a period of economic
contraction. These buffers are designed to limit the sort of systemic risk that beset markets during the 2007-2009 financial crisis.

This paper will describe the general shift in financial regulatory policy that has taken place since the 2007-09 crisis and explore the probable impacts that it will have on the financial system. Section I discusses macroprudential regulation and its relevance to the crisis. Section II contrasts macro- and microprudential policies using capital minima and countercyclical capital buffers as examples. Section III discusses some of the technical challenges to crafting and implementing new regulations. Section IV shows that raising the minimum capital-to-asset ratios is expected to increase bank lending spreads and loan rates and reduce economic growth by between 0.05 and 0.15 percentage points. Section V looks at the potential volatility-reducing effects of countercyclical capital buffers. Finally, section VI will explore the shadow banking industry and its relationship with macroprudential policy goals.

Section I: Theoretical introduction to financial regulations

Following the 2007-09 financial crisis, it became apparent that trouble in certain corners of the financial sector could undermine overall financial stability and pull the rug out from underneath much of the world economy. Indeed, the crisis wiped out a significant amount of household wealth and human capital in the United States and around the world. An inordinate number of people faced home foreclosure, long-term unemployment and other serious hardships. In September 2013, researchers at the Federal Reserve Bank of Dallas estimated lost output due to the crisis to be between 40 and 90 percent of 2007 output in the U.S. amounting to between $50,000 to $120,000 per household. Clearly, there is justification for regulating the financial sector to protect against the likelihood of future crises and to limit their magnitude.

While the crisis humbled the regulators who were supposed to be on the alert for the antecedents of financial collapse, it also gave them a mandate to address the problem of systemic risk with new
rules and regulations. Policymakers are now formulating and adopting macroprudential regulations to expand the financial regulator’s field of vision to incorporate the interactions of broader conditions in the financial system. These tools include supervisory stress tests, quality-of-capital standards, more robust risk assessment and disclosure by firms, and countercyclical capital buffers.

Table 1 provides a comparison of micro- and macroprudential financial regulations. Macroprudential regulations seek to mitigate the social costs of system-wide distress in financial markets. This level of analysis is novel in that it considers generalized conditions in the economy and the highly globalized financial system. It recognizes that fluctuations in financial markets can induce volatility in the real economy. Specifically, the Basel III accords aim to establish global standards for banking regulation based on the macro-level approach. In contrast, microprudential regulations seek to prevent failure of individual financial institutions with the protection of depositors (or deposit insurance funds) as the ultimate goal. In the micro context, regulators apply capital-to-asset ratio requirements to the banks to ensure that they do not take excessive risk with government insured deposits. This forces banks to internalize risk and lessens the moral hazard associated with deposit insurance. These safety-and-soundness measures help prevent costly outcomes such as bank runs, but they only consider firms in isolation. Furthermore, static capital minima have the drawback of restricting lending by a bank that suffers losses to its capital. This is discussed below.

**Section II: Shifting from Microprudential to Macroprudential**

Prudential bank regulations, generally, are meant to ensure safety and soundness, so banks do not fail, and depositors do not lose their money. The distinction between microprudential and macroprudential regulations is important for both policy design and economic outcomes.
The traditional minimum capital requirements under microprudential regulations dictate that each bank must hold a certain ratio of capital to assets. Consider a bank with $100 in assets that is required to hold 8 percent capital-to-assets. If the bank suffers $2 in losses to its capital such that it now holds $6 in capital, then the regulator will require the bank to raise $2 in capital or to reduce assets to $75 ($6/$75=8%). Therefore, when an individual bank encounters financial distress and suffers a drop in capital, it must choose whether to shrink its balance sheet or to raise new capital. A healthy market would accommodate such actions by the troubled bank. In the context of a functioning financial system, an insolvent bank could even be allowed to fail without tremendous damage to the economy.\textsuperscript{11} It should be reiterated, though, that the above exercise assumes a healthy financial system. The scenario changes significantly if the financial system is in crisis.

If many banks suffer losses and, as a result, are required by regulators to readjust their balance sheets simultaneously, it can create the potential for a credit crunch and/or fire sales.\textsuperscript{12} When banks all cut back on lending at once to reduce the size of their balance sheets, credit can become too costly for both firms and consumers leading to a credit crunch. Borrowers cut back on spending, firms reduce investment, and the economy contracts. Troubled banks also have the option to sell off securities to shrink their assets. However, if the market is flooded with unattractive or toxic assets, as it was with mortgage-backed securities in 2008, then the prices can plummet in a so-called fire sale. Fire sales are particularly relevant for systemic risk because, once an asset is subjected to a fire sale and becomes toxic, it will affect the balance sheets of any firm that holds that asset whether they are financially sound or not. Thus it is said that minimum capital requirements \textit{can} have a procyclical effect of driving a contracting economy deeper into recession.\textsuperscript{13,14}

One of the main goals of macroprudential regulation is to limit the social costs of “excessive balance-sheet shrinkage on the part of multiple financial institutions hit with a common shock.”\textsuperscript{15} In order to reduce the potential procyclical impact of capital requirements, the Basel Committee
on Banking Supervision has proposed time-varying capital requirements or countercyclical capital buffers. These are an extension of prudential minimum capital requirements, but they are designed to give banks more breathing room in times of distress. The logic is as follows. Banks build up the buffers during good times, and they can draw down the buffer during bad times to cushion losses. Capital buffers have two ultimate goals. The first is to limit widespread distress in the financial system. The second is to limit the amplifying effect of the banking sector on macroeconomic fluctuations. In other words banks “should act as far as possible more as shock absorbers than amplifiers.”

The financial crisis gave political capital to advocates of more comprehensive financial regulation, but there remain many challenges to building a comprehensive and effective backstop to systemic risk.

Section III: Challenges to Implementing Successful Countercyclical Capital Buffers

Requiring banks to accumulate rainy-day capital during lending booms ought to prepare them for a bust. Ideally, this should reverse the procyclical effect of the rigid capital floors imposed by microprudential capital minima. However, it is not entirely clear that policy makers are equipped with the knowledge to fine-tune these dynamic new regulations in real time. Furthermore, if microprudential capital requirements led to unintended consequences, how can regulators be so sure that more regulation on a more complex level will succeed?

One of the main challenges in designing a macroprudential framework is to accurately identify when good times transition to bad times, so the authorities can instruct banks to raise or draw down their capital buffers. In Figure 1, Drehmann et al. graphically show different proposals for the structuring of countercyclical capital buffers. Type 1 is a static buffer that is switched on during good times and switched off when bad times arrive. Type 2 requires banks to accumulate buffer capital gradually during good times and release the buffer immediately.
in bad times. Type 3 similarly employs a gradual build up but a more incremental release. Drehmann, et al. prescribe a policy of either Type 2 or 3. Depending on various factors in the context of the particular market, regulators could choose an immediate release or rapid lowering of buffers.\textsuperscript{18} The gradual buildup would allow banks time to adjust through the business cycle and may discourage credit imbalances. When the buffers are released promptly, banks will have more capital to absorb losses and continue lending even as the financial outlook worsens.

For the signaling indicators, Drehmann et al. propose using two different variables to signal each phase. This view suggests credit is the best signal variable for the accumulation phase of capital buffers. “When measured by the deviation of the credit-to-GDP ratio from its trend, [credit] has proven leading indicator properties for financial distress.”\textsuperscript{19} According to this same analysis, a measure of aggregate gross losses would signal the transition from good to bad times triggering the release phase of the buffers. Gross losses would signify to regulators “whether the banking sector is a source of credit contractions or not.”\textsuperscript{20}

Conversely, researchers at the Federal Reserve Board argue that measures of the credit-to-GDP gap are not reliable in real time since the figures are subject to large revisions.\textsuperscript{21} The methods used to estimate the credit-to-GDP gap do a better job in the middle of a series of data where there is past, present and future information available, rather than at the end (i.e., the present) where no future data exists. Miscalculations can lead to false-positives of excessive credit. In their review of the historical data, Edge and Meisenzahl found several examples where unreliable estimates using common metrics of the credit-to-GDP gap would have triggered false positives.\textsuperscript{22} They determined that if countercyclical capital buffers had been imposed in these cases, then some banks likely would have experienced capital shortfalls. They do not suggest other measures for countercyclical capital buffer reference points or triggers.\textsuperscript{23}

As for the actual capital requirements proposed under Basel III, the rules become effective January 2019 with the minimum Tier 1 capital-
to-asset ratio set at 8.5 percent and a countercyclical buffer ranging from 0 to 2.5 percent depending on the country.\textsuperscript{24} Hanson, Kashyap and Stein proposed a minimum of approximately 8 percent and a buffer with an upper limit of 4 to 7 percent. Based on their analysis of bank balance sheets, they argue that banks could operate without undue hardship with significantly higher capital-to-asset ratios (approaching 15 percent with buffers in place).\textsuperscript{25} In their assessment, the more lenient regulations were achieved by banks “deploy[ing] armies of lobbyists to fight increases in their capital requirements.”\textsuperscript{26} There is a risk of competitive effects and regulatory arbitrage associated with too-strong regulations that would push banking activities towards the unregulated shadow banking sector. Section VI discusses this matter at greater length.

\textbf{Section IV: Effects of Raising Capital Requirements Under Basel III}

The new rules under Basel III will phase in over the next several years. Chief among the new regulations are requirements that banks achieve higher capital-to-asset ratios. Tier 1 capital requirements are set at 6 percent and 8.5 percent for 2015 and 2019, respectively.\textsuperscript{27} These measures can be classified as traditional safety-and-soundness regulations, but they also have the macroprudential goal of increasing financial stability by reducing systemic risk. Banks will be forced to finance more of their operations through money provided by owners rather than through money borrowed from other banks or depositors. In theory, this lessens the likelihood that a bank will fail if it suffers losses.\textsuperscript{28} With more and higher quality capital on the balance sheet, owners and shareholders can tolerate greater losses on their investments during times of distress with little impact on the bank’s ability to service its obligations to creditors and depositors. During the 2007-2009 financial crisis banks were not able to absorb losses due in part to erosion in the quality of capital.\textsuperscript{29} More Tier 1 capital will make individual banks and the banking system more resilient to economic adversity.

Though higher capital requirements make banking less risky, they come with costs. Slovik and Cournède established that, as banks
raise more capital, they will increase their lending spread (the difference between loan rates and deposit rates). Since the marginal cost of capital exceeds the marginal cost of deposits, higher capital requirements induce a rise in the marginal cost of loans. Slovik and Cournède estimate these higher capital ratios will negatively impact GDP growth by between 0.05 and 0.15 percentage points per year while increasing bank loan spreads by 15 basis points in 2015 and 50 basis points in 2019. These estimates rely on predictive models, but the results have been replicated in multiple studies. In short, banks adjust to higher capital requirements by raising loan rates and lowering deposit rates, which results in less lending and a small but measurable drop in economic activity.

Cross-country variations in the elasticity of loan demand mean that the costs of higher capital requirements will be felt more acutely in some countries than in others. For example, in Japan and Denmark, where elasticity is relatively high, increasing lending spreads and loan rates will reduce lending to a far greater degree than in countries such as the United States where elasticity is relatively low. Policy makers in countries with higher elasticity could face unforeseen economic and political consequences for enforcing greater capital requirements.

Section V: Utility of Countercyclical Capital Buffers

Countercyclical capital buffers will be introduced in the coming years as part of Basel III. National regulators will use discretion in raising the buffers up to 2.5 percent during times of excessive credit growth. Empirical predictions moderately suggest the buffers will reduce volatility. Angelini, et al. simulate a credit boom in an economic model that approximates countercyclical capital buffers taking effect as the credit-to-GDP ratio rises. The results show a reduction in GDP volatility as measured by the standard deviation of the percentage change in GDP, implying less volatility when the model incorporates a simulated capital buffer. The effect is notable, but the results are not entirely convincing. The results of the model reinforce the theoretical and logical basis for countercyclical capital buffers, but, until the buffers have actually been
implemented enough times to allow for credible analysis, the long-term implications will remain a matter of speculation. Furthermore, as there is significant doubt over the reliability of the indicator for excessive credit growth in real-time, the countercyclical buffers will carry uncertainty and controversy.

Based on the contractionary effect on lending of raising capital ratios, Cosimano and Hakura predict that raising buffers by the maximum 2.5 percent would induce a reduction in lending volume by a similar percentage.\textsuperscript{37} This suggests regulators need to use caution in declaring a state of excessive credit growth since it could tip an economy in an undesired direction. If regulators declared a state of excessive credit growth alongside contractionary monetary policy, the economy would most likely experience inordinate tightening and, potentially, a credit crunch or recession. Coordination with central bank authorities would be crucial to avoid such a mistake.\textsuperscript{38} In countries with weak institutions and/or non-independent regulatory authorities this could be especially problematic.

\textit{Section VI: Competitive Effects and Unregulated Banks}

Having examined the predictive implications of the research literature, this paper now turns to shadow banks and competitive effects of new regulations. Shadow banking refers to credit intermediation services provided by institutions that do not have access to federal deposit insurance or emergency liquidity offered by the Federal Reserve’s discount window.\textsuperscript{39} This sort of credit intermediation has some advantages, but also carries risk. The financial crisis revealed weaknesses in the complex relationship between capital markets and the shadow banking system. Adrian and Ashcraft explain “the conversion of opaque, risky, long-term assets into money-like, short-term liabilities via the shadow banking intermediation chain thus masked the amount of risk taking in the system.”\textsuperscript{40} Low perceptions of risk fueled a credit boom. Linkages between the shadow banks and traditional banks spread systemic risk and exacerbated the bust.\textsuperscript{41} Among the post-crisis reforms are rules disallowing banks to securitize assets off-balance sheet and to become intertwined
with risky and unregulated shadow banks. This also has the effect of driving risky behavior at regulated banks into the unregulated sector.

With stricter bank regulations coming into effect, shadow banks will have a competitive advantage over regulated banks. According to the Financial Stability Board, the shadow banking industry has grown steadily over the last decade from $26 trillion in assets in 2002 to $75 trillion in 2013 (see Figure 2). Considered against the output losses due to higher capital requirements for regulated banks, it is possible that shadow banks will make up the difference in some or all of the lending that regulated banks must forgo to maintain higher capital-to-asset ratios. Businesses have begun to turn to shadow banks to acquire corporate loans as regulated banks exit that market.

The risk of shadow banking results from maturity mismatches and excessive leverage. Maturity mismatches arise when there is a discrepancy in the time scale of a bank’s lending and borrowing. A firm with high levels of debt relative to equity is said to be highly leveraged and can be more susceptible to risk. During the crisis, shadow banks faced leverage problems and maturity mismatches, but have reduced their exposure to these risks in the aftermath. Stress tests under Basel III will be applied to regulated banks to prevent the accumulation of risk associated with leverage and maturity mismatches. These measures could eventually be applied to shadow banks.

Section VII: Insights on Systemic Risk from Other Disciplines

In a unique analysis incorporating insights from biology, epidemiology, engineering, and other disciplines, Haldane and May make the argument for encouraging diversity and modularity in the financial system. Leading up to the financial crisis, banks sought to limit risk by diversifying their assets, but homogeneity emerged across institutions. Banks all hedged in very similar ways and wound up holding similar assets. This exposed banks to common risks, in contrast with the above stated goals of macroprudential policy. “In regulating the financial system, little
effort has as yet been put into assessing the system-wide characteristics of the network, such as the diversity of its aggregate balance sheet and risk management models.” They propose using policies that would incentivize diversity of balance sheets, risk management systems, and corporate governance. This is generally in alignment with macroprudential goals. At least on the surface, the growing trend of financial firms devoting more resources to Corporate Governance, Risk Management and Compliance (GRC) departments also reflects an acknowledgement of the need to improve the resilience of the financial system. Further research could shed light on whether this shift is due to government policies or the self-interest of banks. A further question pertains to the effectiveness of GRC departments.

Haldane and May’s second point about modularity relates directly to macroprudential policy. Computer networks, utility grids, and public health systems employ modularity to manage the risk of failure or contagion. Network analysis tells us that a less centralized system is generally less vulnerable to shocks and cascading effects. The Volcker Rule is one example of instituting modularity in the financial sector by preventing banks from engaging in risky proprietary trading or private equity ventures. Segmenting the financial sector further may be difficult due to the diversity of institutions that are engaging in the shadow banking sector. These include asset managers, hedge funds, retirement funds and so on. Indeed, a broader definition of shadow banks is used in the business world to refer to any non-bank that engages in bank-like activities. This would include private equity firms and payments companies such as PayPal. The broader definition is less relevant for analyzing financial regulations, but it does illustrate the complexity of the modern financial system. From this standpoint, one can see that in some respects shadow banking leads to welfare improving innovation. However, modularity is sure to suffer if there are only two nodes. Given the option of a narrow banking sector that is regulated and an unruly shadow banking sector that is barely regulated, the shadow banking sector will most likely accumulate greater market share over time.
Conclusions

Basel III encapsulates some of the most important banking regulations that followed the 2007-09 financial crisis, taking a significant step towards more synchronized global banking regulation. However, the content of the rules is more important than their international nature. Basel II was an international regime that proved ineffective. The ambitious approach of Basel III (including the dynamism of macroprudential regulations) is needed to manage risk in the increasingly complex financial sector.

Countercyclical capital buffers are well positioned to limit the procyclicality of banking and credit. Higher capital requirements during good times will better prepare banks for bad times. Furthermore, capital cushions should shield the real economy from the amplifying effects of a credit crunch as witnessed during the 2007-09 financial crisis. A successful regulatory regime will take into account the interactions of other economic policy and will use the best available metrics for signaling the switch between good times and bad times.

Naturally, regulations imply tradeoffs. Researchers predict that higher capital-to-asset ratios will translate into higher loan rates, less lending volume and a small decline in GDP growth. In theory, the lower probability of financial crisis justifies these costs. Furthermore, Basel III delivers innovative regulatory measures such as countercyclical capital buffers, which, if applied prudently, might help reduce damaging swings in the credit cycle. Shadow banks will certainly benefit from greater scrutiny of regulated banks and will very likely require attention from policy makers in the near future.

Considering the above impacts all together, it is possible that the decrease in lending imposed by higher capital-to-asset ratios will be offset by an increase in shadow bank lending. Competitive effects and innovations in the shadow banking sector may transform the nature of credit intermediation away from traditional banks, making the impacts
of Basel III uncertain in the long run. Regulators must keep close watch over developments in the banking industry to make sure that new sources of systemic risk do not accumulate to the familiar levels of 2007-09. New regulations are starting to take into account systemic diversity and modularity. Regulators, academics and bankers should continue to explore these and other ideas as they endeavor to prevent and manage future financial crises.

<table>
<thead>
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<th>Table 1</th>
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<tr>
<td><strong>Proximate objective</strong></td>
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<tr>
<td>Limit financial system-wide distress</td>
</tr>
<tr>
<td>Limit distress of individual institutions</td>
</tr>
<tr>
<td><strong>Ultimate objective</strong></td>
</tr>
<tr>
<td>Avoid output (GDP) costs</td>
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<tr>
<td>Consumer (investor/depositor) protection</td>
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<tr>
<td><strong>Model of risk</strong></td>
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<tr>
<td>Endogenous (in part)</td>
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<tr>
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<tr>
<td><strong>Correlations and common exposures across institutions</strong></td>
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<td><strong>Calibration of prudential controls</strong></td>
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<td>In terms of system-wide distress; top down</td>
</tr>
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<td>In terms of risks of individual institutions; bottom-up</td>
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**The macro- and microprudential perspectives compared**

The two approaches to financial regulations differ in fundamental ways. Crucially, the macroprudential perspective emphasizes that risk across institutions (systemic risk) can stem from common exposure to financial activities such as mortgage-backed securities during the 2007-09 crisis.

Source: Borio, 2003
Countercyclical Capital Buffer design

Drehmann, et al. explore the implications of different capital buffer types. The types vary in the abruptness of the build-up and release phases of the capital buffers.

Source: Drehmann, et al. 2010
Table 2

<table>
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<th>Basel III Rule</th>
<th>Goals</th>
<th>Intended Effects</th>
<th>Side Effects</th>
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<tr>
<td>1. Increase Capital-to-asset ratios</td>
<td>More resilient banks</td>
<td>Banks hold more capital and lend less</td>
<td>Less lending reduces GDP growth slightly (0.05-0.15% annually)</td>
</tr>
<tr>
<td>2. Countercyclical capital buffers</td>
<td>Dampen credit booms and sys-</td>
<td>Banks accumulate and release capital buffers to prevent</td>
<td>Potential for amplifying contraction-ary monetary policy</td>
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<td></td>
<td>temic risk</td>
<td>excessive credit growth</td>
<td>less lending reduces GDP growth slightly</td>
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<tr>
<td>3. Generally higher banking regulations</td>
<td>More resilient banks and less systemic risk</td>
<td>Better run banks and safer financial system</td>
<td>Competitive effects lead to <em>growth of shadow banking</em> with the potential for greater systemic risk accumulating in unregulated banks</td>
</tr>
</tbody>
</table>

Summary of Basel III Impacts

Basel III is an ambitious group of policies that will have far reaching consequences, many of them unintended.

Source: Slovik and Cournède 2011
Assets of Non-Bank Financial Institutions
20 selected countries

Measured in US dollars, shadow bank assets have nearly tripled over the last decade.

The growth of shadow banks has continued to expand since the financial crisis 2007-09.

Source: Financial Stability Board, 2014
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Mi Familla Regresa: Reforming Poverty Initiatives in Guatemala

By Jordan M. Smith

Abstract

The 1996 Guatemalan Peace Accords formally ended nearly four decades of armed conflict that stemmed from generations of great disparities in wealth. Central to the agreement was a call to reform the deeply rooted processes of economic exclusion that kept many Guatemalans destitute. For years after 1996, the government largely ignored the country’s poor, until leftist candidate Álvaro Colóm was elected president in 2007. Almost immediately, Colóm initiated the social program Mi Familia Progresa to reduce Guatemalan poverty by giving small cash transfers to qualifying families to abate health and education costs. Although the results of Colóm’s transfer program are mixed, it is known that poverty continues to ensnare millions of Guatemalans in a pernicious and nearly inescapable cycle. The focus of this paper, then, is to address the successes and failures of Mi Familia Progresa and offer policy recommendations for future cash transfer programs.

Introduction

Within the past twenty years, a paradigm shift away from neoliberal thinking and more towards a rights-based approach influenced the creation of policies designed to spur human development.1 Guided by the ‘capabilities approach’ of acclaimed economist Amartya Sen, this new development model focuses on cultivating the abilities or ‘capabilities’ of individuals to take advantage of real opportunities (e.g., education) that would ultimately improve their overall well-being.2 Out of this theoretical framework came a new strategy known as conditional cash transfers that addressed poverty in developing nations.3
Conditional cash transfers (CCTs) aim to reduce poverty by regularly dispensing small amounts of cash to poor families with children. Typically, these funds are distributed under the conditions that children receive regular check-ups at a health clinic and are routinely attending school. Although CCTs are unlikely to eradicate global poverty, early findings suggest CCT programs could have a major impact by reducing endemic poverty in the developing world. In the wake of its 36-year-long civil war, the Republic of Guatemala has embraced this new approach to end the country’s cycle of poverty. Through the use of contemporary development literature on CCT programs, as well as research conducted in the field, the subsequent pages of this work will (1) show the need for poverty reduction in Guatemala, (2) assess the country’s recent CCT program, Mi Familia Progresa, and (3) provide policy recommendations for continued reformation of the poverty-reduction agenda.

Background

In the last days of 1996, the Guatemalan government and the oppositional leftist rebel groups formally signed an end to the Guatemalan Civil War with the hopes of restoring peace in Guatemala. For nearly four decades, the war had torn the country apart, leaving 200,000 dead, and displacing over one million Guatemalans – a period that has been described as the most brutal campaign in Guatemala since the Spanish Conquest. For some, the signing of the 1996 Peace Accords was a step forward to address many of the deeply rooted socio-economic issues that had divided the country for centuries. Central to the agreement was the government’s mission to prevent “processes of economic exclusions, such as unemployment and impoverishment, and towards optimizing the benefits of economic growth for all Guatemalans.” Unfortunately, the decade that followed the agreement saw little reform, and much of the country’s corrupt institutional framework remained intact.

Then in 2007, hope was rekindled when leftist candidate Álvaro Colóm was elected President. Colóm, who had run on a platform to tackle poverty by investing in health and education, remained true to his
word. In 2008, he began his “flagship” CCT program known as *Mi Familia Progresa (MIFAPRO)*, or “My Family Progresses.” For the duration of his presidency, Colóm continued to operate MIFAPRO with the mission of advancing social cohesion through poverty reduction among the nation’s citizens. Though Colóm’s agenda appeared both noble and progressive, abolishing Guatemalan poverty would require clearing of multiple barriers hindering widespread development.

**Endemic Poverty in Guatemala**

Since Colóm took office in 2008, Guatemala has been a rather tenuous state. The country experiences rampant drug-related crime, extreme disparities in wealth, severely underfunded social services, and egregious levels of poverty. Although the country has the highest gross domestic product (GDP) and most private helicopters and airplanes per capita than any other Central American country, Guatemala falls behind in multiple development indicators, faring worse than some poorer countries in Latin America and Africa. In fact, the Social and Economic Rights Fulfillment Index ranks Guatemala as the poorest performing country in Latin America on measures of coherence between income and social indicators. Likewise, the Human Development Index ranks Guatemala 125 out of 187 countries, primarily due to consistently poor health and education indicators.

Although Guatemala has a middle-income economy and a sizable GDP per capita of $3,478, concentrations of wealth skew this measurement quite significantly. As reported by the World Bank, an astounding 71% of Guatemalans live on $5 a day or less. Compared to some other developing countries, Guatemala’s official poverty rate may not seem to be so dire, but the number of Guatemalans so close to the poverty line is quite distressing. Consequently, a more accurate representation of GDP per capita for the majority of Guatemalans is $1825 a year or less. This is just slightly over the basic cost-of-living estimates ($1176 per individual per year) issued by the United States Department of State.
in 2010.\textsuperscript{16} Perhaps even more concerning than the country’s breadth of indigence, is the inability to escape. As studies have shown, a quality education coupled with adequate health remains vital for upward mobility in a number of arenas.\textsuperscript{17} For many Guatemalans, these too remain luxuries.

Basic health needs, especially among women and children, remain a critical issue to be addressed. In rural areas of Guatemala, health centers are liable to be poorly staffed and underequipped to meet the healthcare needs of the local population.\textsuperscript{18} To date, more women die of unresolved pregnancy complications than any other Central American country, and rates of infant mortality remain high.\textsuperscript{19} Of the children who survive infancy, the majority will suffer from mild to severe health issues that result from malnourishment. In 2012, the World Food Programme reported 50\% of Guatemalan children under the age of five suffer from chronic malnourishment, the fourth highest rate in the world.\textsuperscript{20} A meal of corn tortillas and a Coca-Cola may be filling, but it desperately lacks nutrition. Poor nutrition from a young age then leads to other health-related issues like prolonged illness, stunting, and cognitive development complications.\textsuperscript{21}

Without adequate nutrition to develop both physically and mentally, education becomes incredibly challenging and many children drop out of school due to poor performance or unwillingness to attend.\textsuperscript{22} In fact, Guatemalan children receive on average 5.6 years of education, which not only leaves them educationally disadvantaged, but also weakens the credibility of education as an investment.\textsuperscript{23} Many poor families living in rural areas not only struggle to meet basic education expenses and fees, but see little reward from doing so. In some rural communities, it is not uncommon for young men with high school diplomas to join a gang since job opportunities are scarce and higher education too expensive.\textsuperscript{24} Tragically, even the young, educated members of rural communities become jaded, as they remain continually deprived of opportunity and incapable of developing their potential. Given the circumstances, parents frequently pull their children from school to assist in meeting financial obligations.\textsuperscript{25}
Bleaker yet, children who do manage to attend school continue to face a series of barriers that would allow them a basic, satisfactory education. According to Avivara, a Guatemala-based non-profit, and through this author’s personal experience teaching in the region, Guatemala’s education system is simply too underfunded to meet basic schooling requirements. Avivara estimates that “less than 15% of all classrooms nationwide meet minimum standards for classrooms space, teaching materials, equipment, furniture, and water/sanitation. In rural villages of Guatemala, that percentage drops to 0%.” Furthermore, the United States Agency for International Development (USAID) reports that on an average day, schools use only 72% of the available time for instruction because of late starts, early dismissals, and prolonged recess breaks. Yet even during actual instruction, students are on task only 59% of the time. Calculating for time lost, the average student receives 56 complete days of instruction in any given school year, which translates to 314 full days of instruction in their entire schooling career.

Poverty in Guatemala is extensive and multi-dimensional. The provision of basic services like health and education could help reduce the number of those living in poverty, but the institutions that provide such services are underfunded and ineffective. When President Álvaro Colóm took office in 2008, he attempted to address these issues with the implementation of the nation’s first conditional cash transfer program. In effect, Mi Familia Progresa was supposed to reach Guatemala’s marginalized populations and, if nothing else, take some of the sting out of their impoverishment.

Mi Familia Progresa

Mi Familia Progresa (MIFAPRO) was specifically designed to provide financial assistance to the poorest Guatemalan families with children less than 15 years of age or mothers who were expecting. Using financial incentives, the government sought to improve school attendance and performance, as well as increase routine health check-ups for children and pregnant mothers. In order to receive the transfers, families who qualified had to meet a few
certain pre-conditions. The first transfer equal to $18.50 was distributed to families whose children had at least an 80% school attendance and graduated at the end of the school year. Then a second transfer of the same amount could be obtained if the students periodically visited a health center for check-ups. In both circumstances, the transfers were equally granted at the local MIFAPRO office to participating families regardless of how many children they had.\textsuperscript{30}

While the government allocated $11.2 million to cover site setup and other administrative costs, almost no family received a transfer in the program’s first year. MIFAPRO was then subsequently funded through budget transfers from other ministries and public institutions and put under the direction of Sandra Torres de Colóm, the president’s politically ambitious wife.\textsuperscript{31} Unsurprisingly, MIFAPRO immediately became immensely popular among recipients, and the government responded by continually increasing its budget, despite having little knowledge if the program was having its desired effect. When the program was suspended in 2012, MIFAPRO had reportedly reached 916,852 families that had directly or indirectly benefitted from the program.\textsuperscript{32} Yet one question still remained, \textit{did it work?}

\section*{Critiques}

In March 2013, Jorge Benavides from the Guatemalan Development Foundation (FUNDESA) authored one of the first empirical analyses on Guatemala’s conditional cash transfer program. Benavides’ comprehensive report examines the cost-effectiveness of MIFAPRO, which he then compares with two similar education and health initiatives. In almost every case, health and education scholarships had their desired effect by increasing rates of school attendance and graduation, as well as expanding the number of recipients for health check-ups. However, the marginal cost difference is quite dramatic. On average, the cost per additional health service was $11.93 under MIFAPRO but only $7.23 under a similar health program, \textit{Equipos Básicos de Salud}. Also under MIFAPRO, the cost per additional primary school graduate was $1,270
compared to $245 under Becas para la Niña. Benavides also notes that schools and clinics could not meet the increased demand for their services.\textsuperscript{33} According to one survey among MIFAPRO beneficiaries, 60% reported the schools had too few teachers, and 90% said the health services are insufficient.\textsuperscript{34}

A second point of contention was MIFAPRO’s lack of transparency and poor administrative oversight. Since MIFAPRO’s inception, President Colóm and his wife, Sandra Torres, were suspected of using MIFAPRO to reward their constituents and pave the way for Torres’ 2011 presidential campaign.\textsuperscript{35} Even on a smaller scale, reports of corrupt local elites lining their pockets with MIFAPRO funds were not uncommon.\textsuperscript{36} While in 2010 the Constitutional Court removed the Education Minister Bienvenido Argueta for failing to provide documentation of MIFAPRO beneficiaries, the program remained a controversial instrument to the couple’s political careers.\textsuperscript{37} By 2011, Torres was one of the frontrunners in the upcoming election, but her marriage to Colóm remained a legal barrier. According to the Guatemalan Constitution, the president and immediate family are ineligible to run for office in consecutive terms, so Torres attempted to circumvent this provision by divorcing her husband. As it turned out, all the political finagling was to no avail since Torres was still barred by the constitutional court from running for office.\textsuperscript{38}

In the end, MIFAPRO did have the desired effect by increasing school attendance and health center visits, but it came at a suspiciously high cost. Unfortunately, it was hardly a transformative policy, and it had almost no lasting impact on the prevalence of Guatemalan poverty, which continues to grow. In many respects the program was an administrative and financial disaster, which resulted in its cessation in 2012 by the newly elected ex-general Otto Perez Molina. Perez Molina then launched his own CCT program, Mi Bono Seguro. To increase transparency, this program lists all beneficiaries online. Although Mi Bono Seguro operates under the same conditions as MIFAPRO, primary school enrollment has been on the decline. This has been attributed to budgetary complications,
erratic payouts, and sub par infrastructure – all of which limit CCT efficacy.39

Conclusions

Poverty in Guatemala continues to be a dire concern, but it does not have to stay that way. As laid out in the 1996 Peace Accords, addressing poverty in Guatemala remains a crucial step in the country’s development and commitment to human rights. In recent years some action has been taken through the use of conditional cash transfers, but such programs have been largely unsuccessful due to fiscal mismanagement, poor transparency, and an acute lack of necessary infrastructure. The government of Guatemala must realize that the presence of endemic, cyclical poverty will not be fixed overnight, and repair efforts will require extensive dedication to social investment. It must also take decisive action towards the poverty reduction cause through reforming, sustaining, and expanding social programs like Mi Familia Progresa. Social investment is based on the premise that people can be the “engines of their own development” who only require state intervention when certain barriers prevent them from doing so.40 Until such barriers preventing personal development are leveled, poverty will remain largely unabated. Therefore, it is the recommendation of this author that the following policy actions be taken into consideration as Guatemala looks towards a more hopeful and prosperous future:

- Increase funding for education and health services, skill training, facilities, and resources to a level that equips teachers and medical staff to effectively perform their respective duties. Initial investment in these two areas has shown to improve health quality and education attainment, as well as a series of positive spillover effects. Funding for such an endeavor could be obtained by closing loopholes in the Guatemalan tax code and a marked increase from the 12% tax rate, which remains universally low.
• To reduce administrative costs and the possibility of corruption, the CCT program should be redesigned to operate not out of local offices, but out of local banks where all transactions would ideally be accounted for. Upon meeting all transfer preconditions, beneficiaries could access their funds at any bank or ATM where they have established an account. This redesign would also benefit the banks by providing them with a list of new potential clients. For recipients in rural communities with no bank or ATM nearby, a marginally larger transfer should be allotted to compensate for travel expenses. This way the most marginalized and hard-to-reach populations are not overlooked.

• Lastly, the government should establish and fund an independent office responsible for the allocation and distribution of program transfers. The office should also make regular reports to Congress and the public concerning the program’s successes, failures, and areas to be improved.
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Using Microfinance To Combat The Sex Trafficking Of Women In Eastern Europe: The Link Between The Impoverished And The Trafficked

By Victoria Spera

Poverty is the primary cause of the sex trafficking of women in Eastern Europe. Dysfunctional economies and cultural subordination of women make education, employment, and financial stability a major challenge for the female population. One of the most commonly sought remedies is migration to a developed nation in Western Europe for work. This puts women at extreme risk of being trafficked for prostitution or sexual exploitation. Recently, microfinance has been used as a means to combat sex trafficking. The theory is: if the feminization of poverty, or disproportionate poverty of women, in Eastern Europe is addressed and reduced, women will gain more opportunities and not have to put themselves at risk of being trafficked. However, popular microfinance does not reach the women who need it most, and does not make it possible to gain anything beyond the bare necessities of survival. Microfinance not only needs to reach deeper into the poorest communities of women, but should also address the need for education, skills training, and awareness.

The Link Between Poverty And Sex Trafficking

The feminization of poverty has been a common phenomenon in transition countries in Eastern Europe since its transition from communism to a market system. Societal gender discrimination and the labor-intensive nature of available work often lead institutions to believe that women are unsuitable for employment, forcing them to migrate elsewhere. When there is an opportunity for employment, it usually pays a very small wage and exposes employees to hazardous working conditions. The division of labor in households also significantly affects the socio-
economic status of women. They are responsible for the well-being of their households, have access to little or no education, and maintain minimal control over finances and assets. A combination of all these factors led to a 40% drop in employment for women in Eastern Europe post-transition.  

With the pressure to keep themselves and their families afloat and almost no means for doing so, women in Eastern Europe are desperate for financial stability. Often, the best option is to migrate to a developed nation in Western Europe for work. However, the willingness to migrate for work makes women extremely susceptible to sex trafficking schemes. Eastern Europe is home to most of the world’s human trafficking victims. Four countries rank “very high” as origin countries (countries from which trafficking victims are taken): Albania, Bulgaria, Lithuania, and Romania. Some of the countries ranked “high” include the Czech Republic, Estonia, Hungary, Latvia, Poland, and Slovakia.  

Many impoverished women are approached by recruiters under the guise of offering them legitimate and dignified work abroad as a server or domestic worker. Some are even offered jobs as dancers or prostitutes in countries where prostitution is legal. Thankful to receive an offer of employment, they will accept, but soon realize that they have come under the control of a trafficker. From there, the trafficked women are subjected to forced prostitution or sexual exploitation, severe physical abuse, illness, and poor living conditions. Seeking help from law enforcement and getting caught doing so often lead to more severe abuse.  

A successful retreat to law enforcement may provide freedom from continued trafficking, but does not always lead to justice or a better life. First, many local governments can be corrupt and encourage sex trafficking because it is thought to boost the local economy. Secondly, formerly trafficked women often become ostracized by their communities. Culturally, involvement with sex work, even if forced, is considered evil and dirty. Therefore, there is almost no chance of employment or reintegration for many women.
Current Microfinance

Even with a supportive legal system, there needs to be more effort than just providing victims with aftercare. Sex trafficking is best combated by going to the cause: poverty. In recent years, microfinance has been considered a useful tool improving financial conditions of people and families in impoverished regions.¹³

Microfinance was not accepted in Eastern Europe until the 1990s. At that time, most of the region was struggling to transition out of a communist system. Gradually, microfinance institutions (MFIs), credit unions, and commercial banks began to establish themselves. MFIs in Eastern Europe are designed to reach out to poor communities in order to help finance small and microenterprises. For the most part, they are successful, but most of these finances are received by men or widowed women. Few microfinance systems specifically strive to assist women in poverty. When they do, they do not reach deep enough into the poorest communities and the finances are not often used for small businesses or self-employment.¹⁴

Microfinance can be an excellent way to help families meet their basic needs, acquire useful resources to improve quality of life, and create a pool of savings. However, many do not have the ability to use microcredit as anything beyond a tool for survival. It is often used for things like food, water, and healthcare, contrary to the goal of it being used for things like education and creating or expanding small businesses to increase opportunities for decent employment. The needs of the millions of impoverished women susceptible to sex trafficking go far beyond the bare necessities.¹⁵

Several issues arise within current microfinance systems that make them relatively useless in the effort to prevent trafficking. First, out of fear of low repayment rates, microfinance is often offered to the moderately poor, but not the severely poor (those with an income of less than one US dollar per day). So the loans often do not reach those at
most risk. Second, repayment plans are too strict and interest rates are too high. Microfinance institutions impose high interest rates in order to keep financially sustainable. Third, the popularization of commercialized microfinance has caused many for-profit MFIs to become indebted to third-party investors and, therefore, more incentivized by lending to those who can bring financial gain as opposed to achieving overall social good. Finally, if women do receive the money, men in their lives often remove the funding from the women’s control.

Adjusting Microfinance Systems To Ensure Greater Success

Properly combating sex trafficking in Eastern Europe requires tackling the feminization of poverty.\textsuperscript{16} In order to do so, current microfinance systems need to be reformed so that they reach the poorest communities, create more flexible repayment plans and interest rates, and address the cultural issues that make it such a challenge for women to thrive.\textsuperscript{17} Although microfinance currently helps some Eastern European women and their families meet basic needs, the system is flawed. They are still forced to go to extreme measures in the pursuit of financial stability, putting themselves at significant risk of being trafficked into prostitution or sexual exploitation.

The Bangladesh Rural Advancement Committee (BRAC) is an example of a group that has succeeded in reaching the poorest communities.\textsuperscript{18} To do this, they require that members of their Specially Targeted Ultra Poor (STUP) group meet three of five criteria: “(1) the household is dependent upon female domestic work or begging; (2) ownership of less than 10 decimals, or one-tenth of an acre of land; (3) no active adult male members in the household; (4) children of school-going age have to take paid work; and (5) no productive assets in the household.”\textsuperscript{19} To these members, BRAC provides help with food, employment, medical needs, skills training, and saving. The key component that makes the STUP program so successful is that it is subsidized. The lack of pressure to repay donors allows them to fully focus on what the poorest people really need to thrive.\textsuperscript{20}
Implementing microfinance programs similar to BRAC would allow for more attention to the women of the poorest Eastern European communities. It would also allow MFIs to become more flexible in their interest rates and repayment plans due to the lack of external pressure from donors or corporate investors. To be more regionally relevant, MFIs can still focus their services on helping create opportunities for self-employment and beginning microenterprises. This method has proven successful so far for Eastern European men. New systems would just need to focus their attention on women in the poorest communities who have almost no employment options except for migrating, regardless of the presence of a male in the household. Additionally, there would need to be opportunity for skills training.

Finally, a new microfinance system will enable MFIs to focus on the real goal: the social revitalization of women in Eastern European communities. Providing employment, education, and skills training will go a long way in achieving financial stability and safety for women and their families. With increases in employment in their own communities and skills to provide to employers, women will not have to look elsewhere for work. With education, women will have the means to improve their status in society and with awareness, and they will know more about the dangers of sex trafficking so they can protect themselves and their children.

United States’ Role In Keeping Eastern European Women Safe

The United States Agency for International Development’s (USAID’s) recently-established Counter-Trafficking in Persons Policy was created so that USAID could “expand its investments in countries with global strategic importance and significant trafficking problems.” There are currently two relevant USAID projects in process: the Kosovo anti-trafficking program and the Moldova women’s career development program. The Moldova program provides skills training and employment for disadvantaged women, while the Kosovo program generates sources of income for those vulnerable to trafficking and prevention awareness programs for youth.
USAID needs to expand its efforts toward the goals set out in the Counter-Trafficking in Persons Policy. In order to do so, they should first set out to target the countries that are ranked very high as origin countries: Albania, Bulgaria, Lithuania, and Romania. Specifically, USAID can provide subsidies to MFIs in these countries under the condition they the funds are used to specifically serve women in the poorest communities who are at the greatest risk of being trafficked. The criteria would vary in each country, but they should not be dependent on the presence or absence of a male party, as the point is to tackle the feminization of poverty. From there, opportunities for self-employment, education, and skills training would make women more financially stable and, therefore, make them less likely to migrate for employment.
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Using Microfinance To Combat The Sex Trafficking Of Women

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Climate Change in the Philippines

By Susan Tart

Abstract

Climate change is one of the world’s most pressing issues of today. Sea levels are predicted to rise, storm surges are set to intensify, droughts will become more frequent and prolonged, coasts will erode while biodiversity disappears, and temperatures are set to expand, depending upon the season. All of these will disproportionately affect the poor, as the poor are less resilient to natural disasters and the economic shocks that they cause. This paper explores how climate change is affecting the poor living along the Filipino coastline. It then investigates two alternative efforts to combat climate change: the UNDP’s forest–fish–fruit initiative in Bangladesh and the World Bank’s flood-resistant bamboo houses in Ecuador. Recommendations are then provided to the Philippines’ government, in the form of how these two cases can be tailored to best match the country’s current situation.

The Complexities of Combatting Climate Change

Why a Coastal Perspective is needed to Combat Climate Change

Climate change threatens coastlines in many ways: both the sea level and sea temperature will rise, storm surges and floods will intensify, coasts will erode, and biodiversity will disappear. Maintaining these ecosystems will be vital to maintaining life and livelihoods. As 60% of the Philippines’ population lives on the coast, “the health and economic well-being of the Filipinos is acutely tied to the country’s coastal ecosystems.”¹ Such ecosystems include mangrove forests and coral reefs, which have a double positive effect of not only providing resources for local populations, but also shielding them against damage from storm surges and floods.²
While the coral reefs are a very complex ecosystem that will require global mitigation efforts so as to reduce seawater temperatures, the loss of mangroves is more of a local problem. In fact, a distressing 70% of the Philippines’ mangrove forests have been cut down for commercial and development purposes, leaving the coastline with a weak, ill-prepared habitat.

For a country that is composed of more than 7,100 islands, this spells out drastic consequences. Located on the typhoon belt, the Philippines has long had to deal with storms and their resulting physical and economic damage: on average, seven to eight tropical cyclones make landfall somewhere in the country each year. This number will only increase as mangroves continue to decline, global action to cut emissions stalls, and the perils of a hotter planet start become reality. Storm surges from typhoons are predicted to negatively impact as much as 42% of the country’s coastline. This makes the Philippines the third most vulnerable country in the world when it comes to global disaster risk. The first two contenders for this unlucky spot are Vanuatu and Tonga, both of which are small island states in the East Asia and Pacific region. Their population combined remains just 0.3% that of the Philippines’ 98 million, giving the Filipino government heightened reason to act.

The Relationship Between Climate Change and Poverty

Climate change disproportionately affects the poor. For one, the poor start out with less financial and physical security. Once shocks occur, they are with fewer coping mechanisms, such as alternative livelihoods or human networks. Complicating matters, the poor are easily drawn deeper into poverty after the shocks have come and gone. Climate change not only worsens poverty, but it can also cause poverty for people just above the poverty line.

The increased frequency and intensity of calamities due to climate change have already pushed millions of Filipinos below the poverty line. This number will only grow as conditions worsen. Currently, 19% of the
Philippines’ population lives in extreme poverty, or on less than US$1.25 a day. What is even more alarming, however, is that when the poverty line is expanded to US$5 a day, as much as 82.6% of the country is considered poor. This creates a hugely vulnerable population that risks getting thrown into extreme poverty with each major storm or disaster. Having to save money after the next storm comes along, for rebuilding homes and infrastructure or paying for medical bills, prevents economic growth and development, both at the micro and macro levels.

Indigenous Filipinos risk losing their traditional livelihoods to climate change. In South East Asia, sea levels are predicted to rise by 50 cm above their current levels by the year 2060, and 100 cm by the year 2090. This causes saltwater intrusion that is damaging for crops—meaning that many Filipino farmers will face smaller and smaller crop yields. Similarly, fishermen face smaller and smaller catches. This is particularly so in the southern part of the country, where warmer sea temperatures and ocean acidification are expected to cause the marine fish capture to decline by as much as 50% by the 2050s. Both farmers and fishermen risk losing their income and food sources, and they have few other opportunities to which they can turn.

A loss of indigenous livelihoods can be expected to increase the degree of migration taking place in the country. The Philippines is already experiencing rapid rural-urban migration, with urban populations rising by an average of 4% each year. This will put added pressure on the already-congested cities, which increasingly lack appropriate infrastructure and housing. Researchers at the Center for Global Development predict that Manila residents will be the world’s most affected population from climate change, based on future urban growth and coastal characteristics.

Other Filipino cities will also be affected. In fact, the Philippines is home to four of the 10 most vulnerable cities in all of East Asia and the Pacific. In these cities, the urban poor often live in informal settlements that are only affordable due to their vulnerability to sea-level rise, landslides and other hazards. Exposure to risk is exacerbated by
overcrowded living conditions, lack of adequate infrastructure and services, unsafe housing, inadequate nutrition, and poor health. These conditions can swiftly turn a natural hazard or change in climate into a disaster, and result in the loss of basic services, damage or destruction to homes, loss of livelihoods, malnutrition, disease, disability, and loss of life.”\textsuperscript{17} An estimated 45\% of the total urban population in the Philippines lives in such conditions.\textsuperscript{18}

**Current Adaptation Measures Falling Short**

Enabling policies and social institutions, such as government financing and civil society organizations, are critical in defining a country’s adaptive capacity.\textsuperscript{19} Yet many of the Philippines’ efforts and policies have so far paled in comparison to the huge threats of climate change. Most resources continue to be directed toward disaster response, recovery, and rehabilitation efforts, rather than toward adaptation measures.\textsuperscript{20} While national-level efforts to boost adaptation policies have been implemented, initiatives have not necessarily been implemented effectively.

An example of how the government has struggled in its past attempts to combat climate change is with its prior mangrove rehabilitation projects. As much as 50\% of the mangrove seedlings in one project died—a result of neglect and the wrong species being planted in the wrong location. GIS technology was not used during the research phase, and the locations for reforestation were picked arbitrarily.\textsuperscript{21} Although a potentially beneficial policy was in place, weak management hindered a successful outcome.

Government efforts have also been criticized for being too grandiose, failing to produce the desired benefits.\textsuperscript{22} An example is the current plan to (forcibly) relocate 100,000 squatters in Manila. Not only will this cost the city billions of pesos, but the law states that settlers must be relocated to permanent shelters that are within city limits and that are free of floods. Previous relocation projects have proved unsuccessful and controversial, as not only did people lose their sole belongings in
the demolitions, but they were moved quite far from their means of livelihoods, only to have their new homes turn out to be just as unsafe when the next storms came along. Both the government’s financial capacity as well as low civil society support posed challenges for the plan’s implementation.

**Alternative Efforts Around the World**

Countries around the world are preparing for the damaging effects of climate change. By studying the projects that other countries have successfully implemented, the Philippines can tailor them to its own situation, boosting the resilience of its own communities. Both Bangladesh and Ecuador share unique aspects similar to the Philippines, and both have implemented practical climate change adaptation projects that are replicable within the Philippines’ setting.

Like the Philippines, Bangladesh has a heavily populated coastline that is not only prone to storms, but that also floods frequently. Coastal communities are losing their natural ecosystems base, which the poor especially depend upon for their livelihoods. The UNDP instituted a coastal afforestation adaptation plan, known as the forest-fish-fruit model.

Ecuador, on the other hand, faces informal settlement challenges that mirror the Philippines’ slums. Residents of these informal settlements are particularly vulnerable to climate change, with few resources and social services, and even fewer coping mechanisms once their homes are destroyed from storms. To help solve the problem, the World Bank found an affordable way to build flood-resistant bamboo houses that elevated and strengthened informal structures.
UNDP in Bangladesh

**Partners:** Government of Bangladesh: Forest Department and Ministry of Land

**Timeline:** Five years, 2009-2014

**Cost:** US$10,500,000

**Size:** Four pilot districts, consisting of 14,350 households

**Objectives:**

1. To enhance the resilience of coastal communities and protective ecosystems through community-led adaptation interventions, focusing on coastal afforestation and livelihood diversification.

2. To enhance national, sub-national, and local capacities of government authorities and planners to understand climate risk dynamics in coastal areas and implement appropriate risk reduction measures.

3. To review and revise coastal management practices and policies so as to increase community resilience to climate change impacts.

4. To develop a functional system for the collection, distribution and internalization of climate-related knowledge."

**Outputs:**

1. Vegetation greenbelt: Planted along the coast, the greenbelt shields against strong winds and storms. Elevated mounds and ditches were built into the greenbelt, giving the terrain extra resistance to natural hazards; saltwater waves are also prevented from overtaking the land and ruining crops.
2. Fish nursery ponds and fruit plants: Interspersed in the greenbelt structure are fish nursery ponds and fruit plants, which enjoy a natural habitat and can sustainably provide an extra means of income for the local communities.

3. Secure potable water sources. The greenbelt allows for rainwater harvesting, micro surface water, and groundwater treatment. This reduces money spent on sourcing water and irrigating crops, and it also creates a reserve that can be used during drier seasons.

Result: Smaller plants had less success than bigger plants, as did plants that were planted when the lunar cycle brought bigger tidal inundations. Overall, the project was successful. It strategically garnered government support and community participation in planting and managing the greenbelt. The districts have an interest in maintaining the greenbelt, as this not only provides an effective buffer zone that reduces their vulnerability and protects their settlements, but it also creates new sources sustainable incomes.

Comments: The project helped to build capacity both at the national and local level by integrating climate change risks into the planning process. Training helped the forestry policymakers understand how to effectively write climate change legislation that was beneficial for the coastal populations. Long-term agreements with the Forest Department and Ministry of Land were vital for local buy-in. The project should eventually improve the flow of information for climate monitoring, forecasting, and the provision of early warning services.
World Bank in Ecuador

**Partners:** International Network for Bamboo and Rattan (INBAR); Catholic University of Santiago de Guayaquil; Viviendas del Hogar de Cristo (HC)

**Timeline:** Ongoing; initially started at the 2009 Development Fair competition

**Cost:** Each house costs US$4,000

**Size:** 500 durable, flood-resistant houses

**Objectives:**
1. To design stronger, elevated houses for the poor in flood-prone areas, enabling them to live in secure infrastructure.
2. To combat deforestation by using local, sustainable resources when building new homes for the poor.
3. To link the existing bamboo supply chain with 1,000 bamboo farmers and 500 local builders.

**Outputs:**
1. Affordable, secure infrastructure: Housing charity and partner HC has the potential to build up to 50 low-cost bamboo houses a day, all of which have a lifespan of 30 years—this is much longer than the current five-year lifespan of HC’s other housing designs.
2. Improved housing designs. Houses use technology to include “a number of flood-resistant features, including raised elevation, increased durability, flood-resistant window fabric, and rooftop access” in case of emergencies.
3. Housing prototypes. The expectation of hundreds of bamboo houses has led to the creation of at least four new housing prototypes, boosting choices for the poor.

Results:

1. As of January 2013, the project had completed two shelters, three classrooms and five houses. More recent figures have not been provided.

2. Mud and water no longer leak in when it rains, as bamboo is of sturdier quality than the typical materials used to build the informal settlements. The native Ecuadorian bamboo has also been praised for maintaining stable temperatures and low humidity levels inside.

3. INBAR’s plan was named one of the top “100 ideas to save the planet,” as it takes advantage of bamboo’s qualities: strong, flexible, grows up to 1.2 meters a day, and continues to sequester carbon for an average of 80 years after being cut down and used for infrastructure.

Comments: The project required a great deal of cooperation between multiple sectors of society: the government, academic scholars at universities, the private sector, and local communities. Now that the project has allowed these partners to come together, incremental units will be much easier and quicker to build. Government regulators can easily extend this project without major financial difficulty or political backlash.
Recommendations for the Philippines

Since 2008, the Philippines’ climate change policies have shifted to focus on adaptation, doubling the appropriations in this area. In 2011, the Philippines enacted the National Climate Change Action Plan (NCCAP), with the ultimate goal to “[b]uild the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change, and optimize mitigation opportunities towards gender-responsive and rights-based sustainable development.”

Both the UNDP project in Bangladesh and the World Bank project in Ecuador are adaptation projects that support the Philippines’ 2008 adaptation agenda and 2011 National National Climate Change Action Plan. The projects are sustainable and affordable, and the government could easily manage them with civil society support. This paper recommends the government implement a combination of the two examples listed above, targeting both urban individual households and rural community villages at the same time. This twice-at-once target strategy not only promotes pro-poor growth, but it helps fight rural-urban migration in the long-term. By giving rural residents greater security in

Figure 1 Evolution of Climate Appropriations. Source: Getting a Grip, 40.
their livelihoods, they no longer have to risk moving to urban areas to live in poor housing conditions. Those already living in informal settlements will be able live there without fear of their homes being washed away. Below are descriptions of how the cases can be adapted to the Philippines.

Forest-Fish-Fruit Initiative

**Target:** Rural villages on the coast, particularly villages with declining mangrove forests and little protection from storms and floods. As the Philippines experiences rapid rural-urban migration issues, villages with higher migration rates should be targeted first.

**Partner:** UNDP: The UNDP has experience in this model, as well as field experience in the Philippines.

**Critical Applications:** Poor management and oversight has meant that the Philippines wasted money on a similar project that called for the planting of mangroves. Care must be taken to ensure that all greenbelt vegetation, including mangroves, are native to the area. University professors studying the local ecosystem should be consulted and made part of an advisory board so that their knowledge remains a part of the system. The advisory board should also be composed of local government officials and community members, so that regulations and civil society needs are in sync. The board should meet regularly. National forest officials will need to work with all village boards, so as to track where greenbelts are planted and how they are changing over time. Training sessions for villagers should be given so that they know how to properly take care of the greenbelt, as well as which fish and fruit will produce the best results. Lastly, mangrove areas in the Philippines tend to be ripe areas for shrimp farms, and the board should not assume that illegal destruction of the greenbelt will not take place. The board should work with the community to come up with a plan to resolve such issues. One solution might include stationing community guard volunteers on the edge of the greenbelt to keep intruders from illegally entering.
Flood-Resistant Houses Initiative

**Target:** Coastal households of urban informal settlements

**Partner:** World Bank—this project could be an extension of its current Climate Change Adaptation (CCA) Project for Philippines, which has an adaptation focus but largely ignores urban areas.

**Critical Applications:** (1) Climate change is predicted to worsen, and houses should be built with the maximum potential damage in mind. This will prevent “safe” infrastructure from becoming “unsafe” in the future. (2) Bamboo that is native to the Philippines should be used, rather than Ecuadorian bamboo. This boosts the local economy and makes the project sustainable. Should assessments reveal that local residents do not trust the durability of the bamboo (as was the case in nearby Vietnam), alternative resources, such as steel parts, can be used to supplement the bamboo. This will drive up the cost, but overall the flood-resistant houses will remain a cheaper alternative than the current plan of forcibly relocating 100,000 settlers, which will be politically costly and will require massive finances to build infrastructure that houses everyone removed. The flood-resistant houses can be built one at a time. These houses are also a cheaper alternative to purchasing major drainage infrastructure that does not allow for future population growth along the water. (3) Houses should be built to local tastes. The residents should be included in the discussions and informed of the new housing designs and limits. Allowing ownership of the process and creating knowledge flows will maximize the success of the project. (4) The process should be completely transparent and strictly managed. A registration system should be designed, and residents should feel that the order in which the houses are distributed is fair. Villagers outside of the cities should be aware that they will not receive houses before those currently living there, as this could create an influx of even more migrants. A community housing board will allow the government to stay on top of citizens’ concerns and the quality of the houses.
Conclusion

Climate change is rapidly degrading the environment and driving millions into poverty. Meanwhile, it is disproportionately affecting two subgroups that the Philippines has in plenty: the coast and the poor. With climate change costs expected to increase over the years, the Filipino government must think strategically about its approach. Adaptation measures with a coastal-specific perspective will be critical, particularly those that are designed and implemented with the poor in mind.

The two recommendations outlined above do just that. The forest-fish-fruit initiative assists the rural poor in finding sustainable income sources, while simultaneously replenishing the natural ecosystem. The flood-resistant housing initiative allows the urban poor to feel their property and lives are safe when strong storms come. These climate change policies indirectly enable the poor to accumulate savings, rather than spending it to recover their belongings and livelihoods after a disaster. When implemented together, their potential for development grows: preparing for climate change in the Philippines becomes equated to combatting poverty and rural-urban migration. Climate Change Action Plan. The projects are sustainable and affordable, and the government could easily manage them with civil society support. This paper recommends the government implement a combination of the two examples listed above, targeting both urban individual households and rural community villages at the same time. This twice-at-once target strategy not only promotes pro-poor growth, but it helps fight rural-urban migration in the long-term. By giving rural residents greater security in their livelihoods, they no longer have to risk moving to urban areas to live in poor housing conditions. Those already living in informal settlements will be able live there without fear of their homes being washed away. Below are descriptions of how the cases can be adapted to the Philippines.
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