



Development Review

Comparison of Direct Transfers for Human Capital Development and Environmental Conservation

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Summary. — Over the past 30 years, direct transfers to beneficiaries have become an increasingly important tool for addressing society's need for effective, efficient, and equitable conservation and development, and have been widely used to generate socially desirable outcomes in human capital development (HCD) programs and Payments for Ecosystem Services (PES) programs. Yet, the two types of programs have been examined in distinct bodies of literature without much reference to each other. By systematically reviewing peer-reviewed journal articles, dissertations, and select working papers, we suggest important similarities and differences between HCD cash transfer and PES programs that have been overlooked, particularly in how direct transfers are conceptualized and operationalized and how intended and unintended program outcomes are produced. Rather than considering HCD cash transfers and PES as two distinct tools, a common framework that conceptualizes direct transfers as an umbrella mechanism to produce socially desirable outcomes can contribute to effectively engaging target populations, addressing the needs of beneficiaries in a holistic way, comprehensively evaluating program impacts, and enabling opportunities to build synergies and minimize redundancies and competition across programs. We conclude by offering five insights into future research, program development, and policy innovations. Specifically, PES programs can learn from HCD cash transfer programs to (1) incorporate considerations of economic and gender inequalities to better sustain long-term environmental outcomes; (2) enhance collaboration among PES scholars, program practitioners, and policy makers to improve PES design and implementation and minimize adverse unintended impacts; (3) use randomized control trials to measure the causal impacts of PES; and (4) reconsider the role of conditionality to promote simultaneous production of environmental, economic, and social benefits. HCD cash transfer programs can learn from PES programs to (5) explore collaborative, community-based program design and implementation to facilitate not only adoption of socially desirable behaviors but also long-term human capital gains.

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1. INTRODUCTION

In the last decade, new approaches to solving societal problems based on direct transfers to individuals, households, and communities, have become increasingly popular in fields as varied as education, health, and environmental conservation. Among them, direct transfers to enhance human capital development (HCD), and specifically conditional cash transfers (CCTs), have taken a center stage. In CCT programs, cash or in-kind transfers are distributed to beneficiaries, conditional on them undertaking socially desirable behaviors. CCT programs vary in design, scope, and outcomes, but tend to focus on increasing human capital, such as mother–child health and schooling for girls (Adato & Hoddinott, 2009). A few programs have focused on other socially desirable outcomes, such as social inclusion (Cookson, 2016), small-business support (Blattman, Green, Jeannie, & Jamison, 2013), and smallholder agricultural production (Davis, Handa, Arranz, Stampini, & Winters, 2002). Following the rigorously evaluated success of *Programa de Educación, Salud, y Alimentación* (PROGRESA), Mexico's CCT program in education and health (Skoufias & Parker, 2001), CCTs have diffused widely, impacting millions around the globe. In 2015, CCT programs were operating in 64 countries (Honorati, Gentilini, & Yemtsov,

2015). As of 2013, one of the largest CCT programs, Brazil's *Bolsa Família*, had served 13.8 million families (Campello & Neri, 2014).

In parallel to the expansion of CCT programs aimed (mostly) at enhancing human capital, a similar expansion of programs known as Payments for Ecosystem Services¹ (PES) has occurred since the 1990s, with 66 billion USD spent globally on watershed-focused PES programs alone as of 2011 (Bennett, Carroll, & Hamilton, 2013). PES is designed as an economic instrument for environmental conservation, in

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which natural resource owners receive payments (cash or in-kind) to manage their resources in ways that benefit others, with compensation paid only if owners comply with binding requirements that seek to produce ecosystem services (Engel, Pagiola, & Wunder, 2008; Norgaard, 2010; Wunder, 2005, 2008, 2013, 2015). Sven Wunder first defined PES in 2005, and revisited the definition in 2015. Currently, PES is defined and widely accepted as “(i) voluntary transactions (ii) between service users (iii) and service providers (iv) that are conditional on agreed rules of natural resource management (v) for generating offsite services” (Wunder, 2015: 241). Conditionality as “the single defining feature” of PES programs (Wunder, 2015: 234) effectively separates PES from previous environmental conservation approaches in which conservation programs were *de facto* transfers to communities without explicit obligation to adopt conservation behaviors. One example of PES is the Sloping Land Conservation Program in China, the largest land retirement program in low- and medium-income countries. The program rewards rural households with a set amount of cash or grain per year for each hectare of cropland converted to forest (Bennett, 2008; Song *et al.*, 2014). Another example is the smaller scale, municipal-level *Pimampiro* program in Ecuador, in which downstream urban households pay a water surcharge that provides payments to upstream households in return for their protection and regeneration of forest and plains (Rodríguez de Francisco, Budds, & Boelens, 2013; Wunder & Albán, 2008).

CCT and PES programs share many characteristics: both rely on direct transfers to generate socially desirable outcomes, generally target poor households, and monitor compliance with conditions. Yet, with two exceptions (Persson & Alpizar, 2013; Rodríguez, Pascual, Muradian, Pazmino, & Whitten, 2011), these programs have been examined in distinct bodies of literature without reference to each other. HCD cash transfer programs have been primarily examined by development economists, geographers, and anthropologists, while PES have been primarily examined by ecological economists, ecologists, and geographers. This points to a need and an opportunity for comparing, contrasting, and potentially coalescing these two types of direct transfer programs because, we believe, they have much to learn from each other.

In this article, we review and synthesize the conceptual and empirical literature on direct transfers for enhancing human capital and environmental conservation. Our results can be used to inform the development of future direct transfer programs to produce various environmental and non-environmental benefits. We ask four linked questions: (1) How are direct transfers conceptualized across the HCD and PES research? (2) How are direct transfers operationalized in HCD and PES programs? (3) What are the intended and unintended, direct and indirect, impacts of direct transfers in HCD and PES programs, and how are they evaluated? (4) How is conditionality understood and implemented in HCD cash transfer and PES programs? Out of our review arises another related question: would PES programs benefit from relaxing or perhaps eliminating conditionality, similar to what has occurred in HCD cash transfer programs?

After reviewing our methods in Section 2 below, we answer these questions sequentially in Section 3. We then highlight the need to use a common framework to conceptualize, operationalize, and evaluate direct transfers for enhancing human capital and environmental conservation. We conclude by offering five insights into what the HCD cash transfer community and the PES community may learn from each other.

2. METHODS

In this article, we bridge two bodies of research: direct transfers to enhance human capital and to enhance ecosystem services. In the review of HCD research, we included studies that examined conditional and unconditional cash transfer programs. In the review of PES research, we included studies that discussed programs defined as PES and programs under other labels, such as Compensation and Rewards for Environmental Services (Swallow *et al.*, 2009) and Payments for Watershed Services (Asbjornsen *et al.*, 2015), which also involve direct transfers for the provision of ecosystem services.

We took an extended approach to the review by employing several search strategies and incorporating multiple types of literature (Petticrew & Roberts, 2006; Savoie, Helmer, Green, & Kazanjian, 2003; Victor, 2008). Our extended approach brought together sources from peer-reviewed journals, dissertations, and working papers. We included both conceptual and empirical studies that used a wide range of methods (e.g., randomized control trials, quasi-experiments, ethnographies). Our strategies for identifying relevant literature included electronic database searches, snowball sampling, and experts' recommendations. For both the HCD and PES literatures, we conducted electronic database searches using Web of Science, JSTOR, AnthroSource, and ProQuest Dissertations & Theses. Terms employed in electronic database searches for the HCD literature are presented in Table 1 and for the PES literature in Table 2. We searched the title, keyword, abstract, and topic fields of these databases. Although we did not explicitly filter the literature by publication date, all of the sources identified through our screening (described below) were published in 2000 or later, allowing us to ensure the timeliness and relevance of the literature under review. The last time we systematically searched the database was March 2015, and we added new papers published after March 2015 as they came to our attention. Given the prevalence of HCD cash transfer programs in Latin America, some Spanish search terms and the names of specific known programs were also included in the search. For both the HCD and PES literatures, we also gathered additional sources through snowball sampling from in-text references and recommendations from experts in the two fields. Finally, we reviewed websites of research groups that had produced working papers and reports on HCD cash transfer and PES programs, such as the Center for International Forestry Research.

We screened results from electronic database searches based on their discussions of conditional or unconditional payments referenced in their title, keywords, and abstract. For some of the results from our initial searches, their title, keywords, and abstract did not explicitly include terms such as “conditional” or “conditionality,” but seemed to discuss payments that are contingent upon compliance with a contract. In those cases, we read the entire paper to determine if conditionality was discussed, and if so, we included the paper in our review. As a result, we reviewed and screened over 2,000 papers from our searches. In the end, we compiled, analyzed, and synthesized a total of 177 papers, including 69 papers discussing HCD cash transfers, 106 papers discussing PES, and two papers discussing both HCD cash transfers and PES.

After compiling the 177 papers, we formulated a new database to guide and record extraction of data from each paper. Data extracted included methodological details, unit of analysis, attributes of the HCD cash transfer or PES programs, discussion of conditionality, discussion of confounders (e.g., gender, inequality), main results, and broader impacts. We

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