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Policy Options for Food Assistance in India: Lessons from the U.S

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Abstract

The Targeted Public Distribution System (TPDS) and Antodaya Anna Yojana (AAY) are important components of India's social safety net. Shortcomings in these food assistance programs have led to various calls for reform in recent times. As policy makers contemplate changes, lessons from the United States' reforms of its own Food Stamp Program (FSP) may prove useful in selecting among alternative designs. For the Indian government, the most applicable aspects of the US experience with FSP reforms lies in the area of eligibility determination rules. In designing eligibility criteria for food assistance, US policy makers have struggled with a basic tradeoff. Whereas monitoring eligibility conditions frequently with precise measures of a family's short-term resources targets food subsidies to the neediest poor, it also carries a large administrative burden for government and beneficiaries. The alternative policy of relying on easily-measured indicators of low longer-term income succeeds in minimizing administrative costs, but it fails to identify families who suffer spells of temporary poverty and can lead to substantial pay-outs to families who no longer require assistance. To assess the importance and consequences of this tradeoff in the US FSP, we evaluate findings produced by a micro-simulation framework developed in MaCurdy and Marrufo (2006a,2006b). These simulations depict the consequences of adopting alternative eligibility rules on program participation, payments of benefits, and administrative activities. The results reveal that it is possible to design eligibility regimes that achieve a reasonable balance between the competing goals of appropriate targeting and administrative efficiency. Such findings have interesting implications for the redesign of the TPDS/AAY, which at present generally relies on using imprecise measures of long-term poverty to determine eligibility.

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1. Introduction

India's central government funds a wide range of anti-poverty programs that vary substantially in their goals, institutional structure, and effectiveness. These programs include support for the self-employed, employment guarantees, infrastructure development, housing construction, old age and survivors' benefits, and food subsidies. The most prominent of these policies from a spending perspective are those providing assistance to poor families to acquire sufficient food and nutrition, known as the Targeted Public Distribution System (TPDS) and Antodaya Anna Yojana (AAY). Targeting below-poverty-line (BPL) families, the TPDS makes allocations of rice and wheat (and, less importantly, sugar, edible oil, and kerosene) available at local Fair Price Shops at subsidized rates. The AAY portion of the program implements even lower rates for those far below-poverty-line. In 2002-03, expenditures on these food subsidy policies accounted for more than a third of central government spending on anti-poverty and social programs, amounting to about 5% of the total budget (see Kochar (2005)).

The critical challenges encountered in designing the TPDS/AAY program, as with any food assistance program, involve prescribing eligibility rules that identify the most needy families with the benefits made readily accessible at low administrative cost. Formulating these program rules involves answering the following core policy questions:
- Who is eligible for the program?
- Given a family's eligibility, what level of food support should be provided?
- In what form should the support be provided?

One finds variants of these questions addressed in the recent five-year plans published by India's central government, which serve as a guide to its economic and social policy. To revise the form of support, the government's 2002 Tenth Plan proposes moving away from providing benefits as a single in-kind monthly allotment of food goods toward a food stamps/card system. In this new system, TPDS/AAY beneficiaries could acquire food stamps from local government offices which would give them the right to purchase the listed quantities at subsidized rates. These stamps would enable beneficiaries to acquire their total monthly entitlement in installments,[1] and beneficiaries could use the stamps at stores other than Fair Price Shops. A working group involved with the still incomplete 2007 Eleventh Plan has studied the viability of introducing an integrated electronic card system covering an array of welfare programs including the TPDS, and has suggested that shifting to the use of a smart card might be a way to mitigate the administrative burden and targeting errors (e.g., through informal trading of food stamps and counterfeiting) cited elsewhere as reasons for not adopting a stamp system.[2] Other Indian government and academic reports advocate revisions in TPDS's delivery system and its determination of eligibility. A 2005 study, for example, by the Planning Commission's Programme Evaluation Organisation (PEO) concludes that the TPDS has been ineffective at targeting food subsidies "to benefit the large majority of the food insecure households in the desired manner."[3] It recommends making Fair Price Shops financially viable to improve

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[1] The state of Andhra Pradesh has experimented with a coupon system along these lines, with favorable results.

[2] See page 290 of the Tenth Plan report and the Eleventh Plan working group report "Entitlement Reform for Empowering the Poor: The Integrated Smart Card (ISC)." Among academics, Ramaswami (2005) notes the possibility of using food coupons or food stamps.

[3] See page xi of the report.

delivery and reduce leakage through illegal diversion. To enhance targeting, some have advocated reforming TPDS/AAY eligibility criteria and identification of BPL families. The most recent BPL census in 2002 assigned poverty scores to families based on 13 categories of circumstances perceived to be correlated with need. It is not clear how many states – or districts within states – have implemented this BPL definition, and even when similar measures have been used, the manner of updating the list of BPL attributes is an open question.[4]

All countries with programs providing food assistance to the poorer members of their populations face similar policy challenges, and the lessons learned from the experiences of these other countries could offer key insights to India's policy makers in their deliberations over any redesign of the TPDS/AAY system. Contrary to what might be one's first impression, the United States offers a fruitful case study for learning about viable options in devising efficient features of food assistance programs. Indeed, since the introduction of its Food Stamp Program (FSP) in the early 1970s, the US Department of Agriculture (USDA) has conducted numerous evaluations revealing how to restructure FSP eligibility and benefit rules to improve its targeting of assistance to various sub-populations of poor families. In its search for optimal designs, USDA balances two basic tradeoffs: (I) instituting eligibility and benefit rules that more precisely allocate benefits to selected families with particular types of needs versus (ii) more flexible rules that lower costs of beneficiary participation and agency administration. The findings from previous evaluations assessing these tradeoffs provide a rich set of lessons for any policymaker considering the design of food assistance programs.

The US lessons potentially useful in the Indian government's deliberations over reform of its TPDS/AAY system concern the setting of eligibility rules in a food assistance program. Eligibility rules determine exactly what economic circumstances must be satisfied for a family to be qualified for food subsidies and how long the family remains qualified before being retested on these circumstances. More frequent checking better targets those who need assistance precisely when they need it, but at the same time it implies high administrative costs for both dispensing agencies and recipients in satisfying continual monitoring. Measuring precisely the economic resources available for spending on food consumption identifies a family's true neediness, but it again implies substantial administrative burden for both agencies and recipients in providing documentation. In its early phases the US FSP relied on monthly measures of disposable income to determine a family's eligibility and monitored resources in a monthly time frame, placing the program at the maximum in terms of its administrative burden. Not only did this policy impose high costs on states which operated the program, it also produced many administrative errors in benefit allocations. Moreover, many qualified families refused to participate to avoid the costs of satisfying program submission criteria. Beginning in the mid 1990s the USDA permitted states to experiment in adopting more flexible eligibility rules, and it sponsored a wide range of studies analyzing the impacts of different rules on program costs and participation. Considered options ranged from measuring short-term income in frequent intervals to using indicators of a family's long-term resources relevant for extended time horizons. As a result of these activities, the US Farm Bill passed in 2002 substantially expanded the states' official options for determining FSP eligibility, and demanded continued analyses of

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[4] In its 2005 TPDS report, the PEO recommends designing a new BPL survey that targets wealth, along the lines of surveys used in a few states. The report notes, "The baseline data generated through the proposed survey may be computerized for monitoring and regular updating." (Page xiii). However, the report does not provide further details.

impacts.

A comprehensive summary of the outcomes attributable to altering the eligibility structure of FSP can be found in the studies of MaCurdy and Marrufo (2006a, 2006b). This work, undertaken with the support and joint participation of the Economic Research Service (ERS) of the USDA, develops an empirically-based micro-simulation framework to assess the projected impacts of adjusting FSP eligibility rules on: (I) who becomes qualified for benefits; (ii) how much benefits eligible families are entitled to receive; (iii) families' participation behavior in FSP; and (iv) how much the program costs to administer for a specified policy regime. These outcomes directly inform policy makers about the tradeoffs relevant in adopting policies that more precisely target food assistance to particular groups of needy families and the higher administrative cost required to implement these tighter rules. The discussion in the current paper will rely heavily upon the findings reported in these studies to draw lessons from the US experience in its search for the optimal structure for its food assistance program.

Translating findings from US studies of the FSP to policy discussions dealing with redesign of India's TPDS/AAY program obviously requires great care, given the significant contextual differences between the US and India. As described in the later sections of this paper, FSP and TPDS/AAY differ in two important respects. First, whereas FSP provides benefits in the form of stamps or vouchers that can be spent for a wide spectrum of goods from a broad range of privately-owned stores, TPDS offers only in-kind benefits available at a restricted set of government-sponsored locations. (The TPDS system is similar to the use of food banks in the US, which play a very minor role in providing food assistance in the US.) Second, whereas FSP primarily bases eligibility on short-term measures of disposable income, TPDS/AAY relies on indicators of low permanent income as criteria for program eligibility. At the same time, food assistance programs in the US and India share many common features. Both target benefits to poor families, with the notion of poor measured by family and economic circumstances. Both provide higher benefits to the poorest eligibles. Both restrict the forms of food goods that can be acquired from program benefits. Both give considerable latitude to local governments in implementing the program, with the federal government paying for the bulk of costs. Whereas the TPDS incorporates minimum prices for food products paid to farmers, USDA programs other than the FSP perform the same function.

The next section of this paper presents a fuller overview of the TPDS/AAY and FSP programs, describing both their differences and similarities and discussing the environment in which policy reforms are currently being considered. Recognizing that the programs differ substantially in the form they provide food assistance benefits, Section 3 briefly outlines the merits of giving benefits in an in-kind versus a voucher form of support. Section 4 moves to an in-depth analysis of the tradeoffs policymakers face in establishing eligibility rules; this analysis briefly outlines the micro-simulation framework used to understand the impacts of various reforms. Section 5 summarizes the key findings of the empirical simulation analysis. Finally, Section 6 closes with a discussion of the lessons to be drawn from US experience for future efforts to redesign the TPDS in India.

2. Overview of Food Assistance Programs in India and the US

The TPDS and FSP approaches to food support policy are surprisingly similar in many basic ways, though there are a few key differences as well. Below, we briefly describe the two programs to illustrate their approaches. Within the descriptions, we address some of the shortcomings noted by critics of each program. We conclude the section by summarizing the similarities and differences between the programs.

2.1 India's Targeted Public Distribution System

The TPDS has a long history as one of India's central government programs. Over time the program has shifted its goals, especially in 1997, when it became more explicitly focused on relieving food insecurity among the poor. This sub-section traces the history of the food support program, and then describes the characteristics of the current version of the scheme. It concludes by discussing criticism that the program has faced recently, criticism which may provide the impetus for future reforms.

2.1.1 Development of the Public Distribution System

The Public Distribution System (PDS) – the predecessor to the TPDS – began more than 40 years ago.[5] As originally conceived, it was a mechanism to stabilize agricultural prices and ensure that basic food items were available at "reasonable" prices, especially in urban markets.[6] The system involved the purchasing of basic commodities (primarily rice and wheat) from farmers by the central government, which used the state governments to help distribute the commodities to local areas. In these localities, consumers could buy allocated amounts under subsidized rates from shops that are still known as Fair Price Shops. The program was an entitlement for all consumers that aimed to stabilize key agricultural markets for farmers. In this sense, the PDS was not a traditional anti-poverty program.

Perceptions that the PDS was not serving certain areas or groups well led to gradual reforms, however. In 1992, the central government introduced the Revamped Public Distribution System (RPDS), which targeted specific remote areas of the country that were left behind by the PDS. In addition to the usual food support, the program gave designated areas other types of support, such as establishing additional Fair Price Shops. The most recent fundamental change to the PDS structure came in 1997, with the introduction of the TPDS. This turned the PDS into an explicit anti-poverty strategy. The central allocation mechanism prioritized BPL families, in that state governments received food grain each year based on historical allocations (and at least enough to cover their BPL population), but above-poverty-line (APL) families only had access to grains that remained after the BPL requirement was satisfied. The central government required the state governments to identify all BPL families, who then became eligible for larger subsidies than those available to APL families.

Further adjustments in 2000 and after solidified the new anti-poverty focus of the TPDS. In

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[5] For a brief description of how the PDS originated, see Kochar (2005) or the website of India's Department of Food and Public Distribution, at http://fcamin.nic.in/dfpd.

[6] For a study examining this urban aspect of the program, see Sah and Srinivasan (1988).

2000, the central government increased the monthly allocated grain amounts for BPL families only, and eliminated the subsidy for APL families. The rate at which BPL families could purchase their allocated amount became 50% of the central government's procurement cost, while the APL rate became 100% of this cost. Also in 2000, the government created the AAY to aid those in extreme poverty. AAY families were identified in each state as a subset of the state's BPL population covered by the TPDS. The program simply allows AAY families to purchase food grains at even lower rates than standard TPDS families. Over time, the monthly food allocations for BPL and AAY households have been gradually expanded. Moreover, the identified number of BPL and AAY households has grown as well, as the central government has shifted the eligibility criteria it recommends to the states.

2.1.2   Current Program Structure

The current structure of the TPDS (and its accompanying program, the AAY) resembles the PDS in regards to the purchase and delivery mechanisms used by central and state governments, but differs in several key details. As mentioned before, the Food Corporation of India (FCI) purchases large amounts of grain (rice and wheat) from farmers at a government-mandated minimum price. The unit cost of procurement and storage is known as the "economic cost". The FCI transports grain to storage networks located in districts across the country. From there, the state governments purchase the grain at the "central issue price", a price that is constant across the country and is less than the economic cost to the central government. The difference between the central issue price and the economic cost is the per unit central food subsidy. BPL subsidies formally enter at this stage of the process, as the central issue price is lower for BPL families and AAY families than for APL families. The most recently reported central issue prices for rice and wheat, respectively, are Rs. 8.3 per kg and Rs. 6.1 per kg for APL families, Rs. 5.65 and Rs. 4.15 for BPL families, and Rs. 3 and Rs. 2 for AAY families.[7]

At this point, the responsibility of the central government ends and the state government takes over. The state delivers the food supplies to Fair Price Shops, which are private or community-run establishments that have contracted with the government for the purpose of selling PDS commodities. Currently, there are approximately 478,000 Fair Price Shops operating in India. State governments fix the retail prices at Fair Price Shops, taking into account costs such as the central issue price and transportation charges. The one exception to this rule is the AAY program, for which states must adhere to the central government's issue price and pay for transportation charges, etc., themselves.[8]

The most pressing issue for state governments to address in administering the TPDS is the determination of eligibility and benefits. The states have a great deal of flexibility in determining which households qualify as BPL households. The only hard constraint they face is that the total number of BPL households identified cannot exceed the number identified in the Planning Commission's 1993-94 results by more than a centrally specified amount. While the micro-level identification of households within this constraint is unrestricted, the central

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[7] This is a departure from the previous policy, noted in sub-section 2.1.1, of providing grain to APL families at economic cost, twice the rate for BPL families.

[8] This leaves the Fair Price Shops in a very particular position. With fixed retail prices, the state fixes the shops' per unit margins. If the shops make only legal sales, the shops' profits are dependent purely on how many clients they serve; they cannot alter prices or the quality of their products to compete.

government suggests that states can follow the criteria used in the 2002 BPL census, with final verification the responsibility of local governments within the state.[9] The 2002 census provides each household a score from 0 to 4 in each of thirteen categories, with 0 showing high need and 4 showing the lowest need. The thirteen categories are: size of land holdings; material used for house construction; availability of clothing; level of food security; sanitation; ownership of consumer durables; literacy; labor force status; type of work; level of indebtedness; school enrollment of children aged 5 to 14; reason behind migration from previous household; and preference for assistance. The scores are summed together, and states can set numeric thresholds that a household must fall under to be a BPL household. These thresholds can vary by district. Under this system, the local governments (in rural areas, the village panchayats) have responsibility for making changes to the BPL list over time, but the frequency of updating is not prescribed.[10]

Other statements by the central government make more clear the targeted population it has in mind. The Department of Food and Public Distribution notes that "...the thrust should be to include the really poor and vulnerable sections of the society such as landless agricultural labourers, marginal farmers, rural artisans/craftsmen such as potters, tappers, weavers, black-smith, carpenters etc. in the rural areas and slum dwellers and persons earning their livelihood on daily basis in the informal sector like potters, rickshaw-pullers, cart-pullers, fruit and flower sellers on the pavement etc. in urban areas." India's central government has also issued some specific criteria to be used in identifying the AAY subset of the BPL population. These criteria pick out groups – such as widows without means of support, landless members of particular occupations, or members of "primitive tribal households" – that may be highly susceptible to food insecurity. The AAY category has been increasing in numbers over time; currently, almost 40% of BPL households have AAY status.

States also have flexibility in determining benefits. According to central government prescriptions, each family can buy up to 35 kg of rice and wheat each month at the APL, BPL, or AAY prices, depending on their status. This prescription does not vary by family size. However, the 2005 PEO study of the TPDS found that the exact BPL quota differed by state. At the time of the study, the centrally prescribed BPL allotment was 20 kg of grain per family. Of the 18 major states covered in the study, 11 states allotted 20 kg of grain per family, regardless of family size. Another state also did not consider family size, but only allotted 16 kg. The make-up of these allotments varied by state as well, in that the allotment was split between rice and wheat differently. For example, Punjab offered 3 kg of rice and 17 kg of wheat to BPL families, while Orissa offered 16 kg of rice and no wheat. Six of the 18 states allowed the allotment to increase with family size to a maximum of 20 kg. The exact formulas followed by each of these states varied as well.

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[9] As noted by Swaminathan and Misra (2001), in 1997 India's Department of Rural Employment and Poverty Alleviation tried to fill the vacuum by recommending an expenditure/asset survey to identify BPL households. Maharashtra was one large state that implemented a form of these recommendations. Examining a village in Maharashtra, the authors find the resulting criteria to be unsatisfactory.

[10] The BPL census was the subject of a Supreme Court stay order, due to concern about the process used; the stay was lifted in 2006 after appropriate modifications by the central government, which put in various appeal mechanisms for families that believed they should not have been denied BPL status.

2.1.3   Shortcomings of the Current Program

Since its creation, the TPDS has been subject to wide criticism. While this criticism relates to both the methods of procurement from farmers and the food subsidies, we focus only on the subsidies here.[11] One can place the shortcomings of the TPDS into four broad groups:
- Difficulty of developing targeting criteria
- High costs to participation
- Variable benefits to participation
- Inefficiencies in government distribution

Below, we briefly discuss each point in turn. The first three points together underlie the high targeting errors noted by commentators, errors resulting from inclusion of well-off consumers, exclusion of BPL families from eligibility, and low participation among BPL families. The fourth point suggests that even if targeting is improved, further reforms could conserve substantial resources.

Beginning with the issue of targeting criteria, there is substantial concern about how to determine eligibility for the TPDS. As noted above, the responsibility of determining BPL and AAY status has been devolved to local governments in an effort to streamline identification. With this decentralization, some heterogeneity in eligibility determination should be expected. However, a lack of systematic criteria can also lead to ad hoc, unsatisfactory outcomes. Swaminathan and Misra (2001) use a survey of Mohakal, a village in Maharashtra, to examine BPL classification in a specific setting. While errors of wrong inclusion fell in Mohakal after the TPDS and a new BPL determination system were instituted, the authors show evidence suggesting that the local BPL criteria excluded a substantial number of poor households. Preliminary results from Besley, Pande, and Rao (2007) suggest that the likelihood of BPL classification varies according to how often the village of residence conducts Gram Sabha meetings, where BPL lists are verified. Conditioning on basic indicators of poverty, the authors find that residents of villages with fewer meetings are less likely to gain BPL designation, leaving them ineligible for the TPDS and other programs. Still, developing clear and consistent targeting criteria is not a complete solution, for the difficulty in verifying whether a family satisfies the given criteria is well-known. While one may want to use income as a measure of eligibility, for example, this may not be practical in many areas due to informal, undocumented receipt of earnings.

Given all these difficulties, some commentators have suggested that leaving the PDS as a universal scheme may be the best way of ensuring that the poor have access to subsidized food. In this vein, Dutta and Ramaswami (2001) note the advantage of self-targeting. If subsidies are limited to food of relatively low perceived quality, or to commodities that primarily the poor consume, then wealthier consumers will self-select out of the universal entitlement. Further analysis of this proposition may be fruitful. Nevertheless, there are a number of advantages to a targeted system if one can be properly designed; these advantages encouraged the launching of the TPDS to begin with. Later in the paper, we discuss the challenges that must be faced in targeting a food stamps-type program.

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[11] Given the current design of the PDS, looking at both sides of the issue is important. However, there is no necessary link between procurement and the targeting of subsidies. In the US, farmers receive significant agricultural support in the form of minimum price guarantees and other instruments. But this support is kept distinct from the Food Stamp Program.

Correctly determining eligibility is by itself not sufficient to eliminate targeting errors, as previous analyses of NSS data have shown that usage of Fair Price Shops is remarkably low across the expenditure distribution. Part of the reason for low participation is simply the high cost of doing so. First, there are significant time costs involved. Fair Price Shops are not always located in convenient areas, forcing families to travel long distances to find one. Indeed, the large number of Fair Price Shops may be impressive, but it is still common for districts to be without a shop. Moreover, once at a shop, a consumer may have to wait in long lines. Second, the shops typically require purchasers to have cash. The poorest families may not have cash on hand. Third, it is not always predictable when shops will have food stocks available, and stocks can run out quickly. Fourth and finally, there is also a psychological cost to participation, related in part to the low quality of subsidized grains. These costs together form a substantial barrier to utilizing the subsidy available at Fair Price Shops.

Not only are costs of participation high, but the benefits can be highly variable and often low. Most clearly, the low quality of grains makes the usage of Fair Price Shops less desirable. Also, regional heterogeneity in consumption patterns among the poor leads to heterogeneity in the value of the subsidies. For instance, in some areas such as Andhra Pradesh, consumption of rice may be more highly valued than in other areas, where unsubsidized coarse cereals could be more common. There is another source of regional heterogeneity in value as well – namely, the intimate relation between the nationally uniform central issue price and the retail prices seen at Fair Price Shops. Certain regions with high supplies of rice or wheat on the private market will have lower market prices, making the value of the subsidy lower than in other regions. With such issues in mind, questions about how valuable PDS benefits actually are in terms of family nutrition have led to some academic work. Tarozzi (2005) finds that a sharp increase in PDS prices in Andhra Pradesh did not have measurable impacts on a basic health measure for young children. Kochar (2005) finds evidence consistent with this, estimating a low elasticity of caloric intake with respect to subsidies. However, she notes that the TPDS subsidies should still be large enough to generate appreciable differences in intake. She suggests that the reason for low intake increases in reality could simply be the low participation rates already discussed.

Finally, even if the problems of eligibility determination and participation were solved, the costliness of the government delivery mechanism would remain a problem. States assume the responsibility of transferring grain from central government storage to Fair Price Shops. This process may come at a high cost. Moreover, en route to the shops, as well as at the shops themselves, there is substantial room for leakage of food supplies. For instance, owners of Fair Price Shops may sell grain to the outside market, leaving supplies unavailable to beneficiaries. A final, well-noted concern is that the off-take of central government food allocations by the states varies markedly by state. To some extent, this could be related to the point noted above, that the value of the subsidy is low or non-existent in regions with low market prices for rice and wheat. But negligence on the part of state governments may also be a problem. Since the central government moves initial food allocations from states that do not take them to other states, it is not uncommon to see some states with only a small percentage of their allocated grain, while others have more than 100% of the original allocation.

2.2   The US Food Stamps Program

Having described the TPDS, we next provide a brief description of the Food Stamp Program in the United States, along with a note on major criticisms of the program. Our discussion of the

shortcomings of the program is short, but more detailed information can be found in the list of citations in MaCurdy and Marrufo (2006a).

2.2.1   Design of the Program

The US Food Stamp Program (FSP) is a federally financed program that targets nutrition support toward those below the poverty line, or those most susceptible to dipping below the poverty line.[12] In addition to providing the funding, the federal government sets basic eligibility rules and benefit formulas. However, individual states have the primary responsibility to administer the program, and they have substantial flexibility in how best to implement the federal rules. The program is now of substantial size, in terms of both financial resources and participants: Total benefits in 2006 amounted to about $30.2 billion, and the monthly average number of enrollees in 2006 was 26.7 million.[13] As one would expect, there is substantial heterogeneity in program usage across and within states.

The structure of the program is very different from the TPDS. Although the US Department of Agriculture administers the program, the FSP is completely independent of the substantial government support given to farmers. A prospective beneficiary applies for food stamps at a local government office. In determining whether or not the applicant is eligible, the local office considers her household's gross income, her net income after a set of possible deductions, and its asset level.[14] The definition of the household, or food stamp unit (FSU), is the group of people who ordinarily eat meals together. Deductions include such items as certain shelter costs (which can include heating, electricity, and water costs), and particular medical expenses (for the elderly or disabled). The asset measure is fairly comprehensive, though home ownership and some vehicle ownership is not counted. The local office then applies three tests, comparing gross income, net income and assets to three separate thresholds for each. The income thresholds are higher for FSUs of larger size. Households with an elderly person or with certain types of disabled people do not have to meet the gross income test, and can have a larger asset value as well. Finally, there is one exception to these eligibility tests. If a person is already enrolled in other government welfare programs, they are automatically eligible for food stamps (these participants are referred to as "categorically eligible"). Once a FSU is determined to be eligible, its monthly benefits are calculated as the difference between a size-specific maximum allotment and 30% of net income.

After the initial eligibility determination and benefit calculation, the new beneficiary begins to receive benefits either in the form of food stamp coupons or of money deposited into an electronic account. In the latter case, the beneficiary can access the account at a wide range of food retailers by swiping an Electronic Benefits Transfer card. For several reasons, the old coupon system is being phased out, and most states have adopted the card system. In either case, the beneficiary has various reporting responsibilities after the initial month of receiving benefits;

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[12] The Food and Nutrition Service (FNS), under the United States Department of Agriculture, administers the program on the federal level. For more information about the FSP than given here, see the FNS website at http://www.fns.usda.gov/fsp.

[13] From the FNS website, at http://www.fns.usda.gov/pd/fssummar.htm.

[14] Proof of statements about these items is required as well. If documentary evidence is not available, then signed statements by employers, etc. may be accepted.

the local food stamp office can then determine whether the FSU is still eligible for benefits, and if so, what level of benefits. The reporting schemes vary markedly across states, and will be the focus of the analysis below.

2.2.2   Recent Criticism and Government Response

As mentioned before, the differences in reporting schemes across states are the result of recent legislation expanding the options available to state administrators. The Government Accountability Office (GAO) showed that only 52% of eligibles in working families participated in 2001, with the rate at a still low 70% for non-working families. Such problems with low participation rates in the FSP convinced federal legislators to pursue reforms in 2002. There are three potential ways to change the FSP policy regime facing potential beneficiaries. First, one could make changes in rules governing the types of people who can apply for the program; second, one could change the criteria used to determine eligibility and benefits; and third, one could alter the reporting scheme, which governs how eligibility is initially determined and then re-determined in the future. While the 2002 changes did all three of these things, the alterations that may have had the largest impact concerned the reporting schemes.

States have taken a wide array of approaches to altering reporting schemes. Moreover, more drastic regime changes have been suggested. One prominent suggestion is that of a Nutrition Tax Credit (NTC), which would be an income transfer tied to the Earned Income Tax Credit (EITC) that low-income workers receive. The advantage of the NTC would be that workers receiving the EITC could be automatically enrolled in the NTC, mechanically boosting participation among working families. In Sections 4 and 5, we present a micro-simulation model with which we examine the implications of six reporting regimes that states could utilize, with three of them including versions of the NTC proposal.

2.3   TPDS and FSP – Many Shared Features and Two Key Differences

Even though the TPDS and FSP appear to have very dissimilar approaches, the two food programs share many fundamental characteristics. First, both programs target the working and non-working poor, with varied benefit levels to address the plight of the poorest segments. Second, both programs are designed to ensure access to only basic food items, with the TPDS being more narrowly restricted than the FSP. Third, both programs involve a large degree of decentralization. In the TPDS and FSP, the federal government shoulders most of the burden for financing, but leaves implementation – including basic administration, eligibility determination, and benefit disbursement – to state governments. Fourth, both programs have historical ties to government support of farmers, but in both cases the delivery of food support can be separated from farmer support. This separation has occurred explicitly in the US, where farm policy has long been independent of the FSP. It is possible to consider farm support and food distribution separate issues in India as well; goods procured by the government could be stored and eventually sold on the open market, rather than being sent to Fair Price Shops.

These shared features make a comparison of the TPDS and FSP reasonable. Meanwhile, two key differences between the programs provide a contrast that makes such an exercise potentially useful. The first difference involves the mode of delivering benefits to recipients, the form of support. The two programs cannot be neatly compartmentalized into the two categories of "vouchers" and "in-kind". Still, the FSP offers a voucher-like system, while the TPDS bears

more resemblance to an in-kind system. Section 3 discusses the relative advantages of voucher systems.

The second difference involves the mode of eligibility determination and re-certification. With the FSP, policy makers target the short-term poor. The program grants eligibility to people who have an adverse change in income for just a matter of months, but who do not have adequate assets to insure themselves in that time. In contrast, the TPDS targets the long-term poor. There, eligibility determination happens infrequently, as does re-certification. Sections 4 and 5 discuss and use an empirical framework to determine the consequences of having short versus long time horizons for the FSP in the US. The analysis depicts the basic tradeoff involved between the higher administrative costs (for government and recipients) of short horizon programs, and the inability to help the short-term poor in long horizon programs.

3. Factors Guiding Policies Determining the Form of Support

The US debate over food stamps has largely steered clear of the issue of what form food support should take. Because of this, we cannot address this issue empirically by examining US experiences with FSP, as we do in the case of eligibility determination in Sections 4 and 5. Nevertheless, there are strong economic arguments for designing benefit delivery in a manner similar to the FSP. The most basic choice in regards to benefit delivery is whether food should be provided in-kind or through some form of vouchers. An in-kind system provides program beneficiaries with the right to secure a particular food allotment, with a specified combination of types of food. In contrast, a voucher system gives beneficiaries a particular amount of money that can be spent on any type of food in the open market. As we have seen, the US FSP is a modified voucher program. Restrictions on the use of food stamp payments – such as the rules preventing alcohol purchase – keep this from being a pure food voucher system. On the other hand, the Indian TPDS is a modified in-kind program, which requires beneficiaries to pay a subsidized rate to gain their defined allotments. Here, we discuss three factors that create advantages to a voucher program over an in-kind program.

First, by providing beneficiaries greater flexibility, vouchers generally lead to increases in welfare for any given program cost. To see this, consider first the TPDS benefit structure. Suppose that Q defines the quantity of food allotted to a beneficiary, P is the market price of the good, and S is the subsidized BPL price. Then the value of the TPDS is $V=(P-S)*Q$, assuming the beneficiary takes the entire quota allocated to her. However, a voucher of value V would leave the beneficiary weakly better off. That is, the beneficiary could use the voucher to purchase the in-kind allotment if she wanted to do so, but she could also purchase other bundles of food that make her better off. Under a voucher system like the U.S. FSP, where a beneficiary can make purchases with vouchers from a wide variety of private food shops, the beneficiary could be substantially better off because of the large selection of foods.[15] Clearly, if the beneficiary was forced to make purchases under the voucher system at only Fair Price Shops (FPSs), her opportunities to improve her welfare would be more limited. But even in this case, a beneficiary that strongly preferred rice to wheat would not be forced to buy a certain ratio of rice to wheat, for example. The beneficiary's options would also increase if, as some have proposed, FPSs were allowed to sell other items besides traditional PDS items. Regardless, a voucher system – whether restricted to FPSs or kept more open – could address the issue of low and variable benefits to the TPDS discussed above. Families could purchase the grains or cereals that they most valued, eliminating some of the problems with heterogeneity in preferences across regions as well as heterogeneity within regions.

The second factor arguing in favor of a voucher system is that the use of vouchers readily permits recipients to spread purchases out over the month. As noted previously, the TPDS forces recipients to secure their benefits in lump sum bundles, which can be inconvenient for all families and particularly problematic for those poor families that do not have much cash on hand at any one time. Under a voucher scheme, however, beneficiaries could pay stores with whatever quantity of vouchers they choose, and stores would redeem these vouchers at government offices for cash (possibly with a premium attached to pay stores for their time cost).

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[15] Whether food support is provided in an in-kind or voucher fashion, it is clear that there are administrative advantages to allowing purchase to occur only at Fair Price Shops. In the current system, for instance, this reduces distribution costs.

This not only makes benefit collection more convenient for all households, but also nullifies the problem of cash shortages among the poor by transferring the responsibility for cash disbursements to the government. To be sure, one could alternatively address these issues in an in-kind system by allowing recipients to pick up portions of their monthly subsidized allotment at many times during the month, rather than just once. However, a voucher system achieves maximum flexibility in this regard.

Third, the use of vouchers means that eligible families can obtain their benefits from a wide range of vendors doing business in the private sector, which elicits improved service and prices through competitive pressures. Under the current in-kind system, it is not possible to use private food shops; hence, the Fair Price Shops have little incentive to serve beneficiaries well unless they are closely monitored, and there is little motivation to ensure that the grains delivered to FPSs are of reasonable quality. Under a voucher system, in contrast, beneficiaries would gain substantial flexibility to choose between private shops and FPSs.[16] Theoretically, at least, this would lead to beneficiaries having more positive experiences when taking up benefits. Moreover, the additional flexibility could ameliorate many of the costs to participation. If vouchers could be used at any store, and not just Fair Price Shops, the problem of access would become less relevant. Families would no longer have to rely on Fair Price Shops to have adequate stocks, since they could frequent any store. In terms of psychological costs, the stigma of welfare participation would remain, but the portion of stigma related to publicly consuming low quality goods would be eliminated, as families would simply purchase any type of good they wanted to on the open market. Finally, such a change could address issues related to inefficiencies in distribution and diversion of benefits, since public distribution could be either reduced or eliminated altogether. The government benefit for BPL families would be transparent, and not subject to leakage in the same manner.

Of course, there are several possible justifications for the modified in-kind design of the TPDS. First, the public may be unwilling to provide the flexibility of vouchers to the poor because of concerns about what funds would be used for. This is a value judgment that a government may agree on. However, the evidence cited above suggests that there is concern about how valuable TPDS benefits are to potential beneficiaries because of regional variation in tastes and the low quality of FPS grains. This is actually concern about there not being enough flexibility in the current system. Moreover, any increase in flexibility through vouchers could be circumscribed by rules preventing the purchase of certain items. A second justification for an in-kind design is that vouchers could be traded for cash on the open market by the poor, or could be stolen from the poor. This could be a threat to the goal of providing food security. Still, it is not clear that leakage would be greater than the significant leakage in the existing system, and identification procedures could be designed to minimize the effect of theft. A third justification for an in-kind system is that introducing vouchers would require recipients to collect them from a local government office. This not only adds administrative costs to government, but also introduces the potential for greater local capture (if, for example, recipients are forced to bribe officials to gain access to the vouchers). These types of costs – and others not covered here – must be weighed against the high costs already present in the current system.

We note that there are numerous other ways to improve benefit delivery in the TPDS that do

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[16] This assumes the government continued to license FPSs; of course, this would no longer be necessary under an altered system.

not involve vouchers. Even taking as given that the TPDS operates by conferring the right to buy an allotment at a subsidized rate from a FPS, there may still be practical ways to improve the form of support. For instance, a coupon experiment run by the Andhra Pradesh government in 1999-2000 suggested that coupons can be an effective way to discretize food allotments, allowing beneficiaries to lift smaller amounts of grain over several occasions, thereby removing the need to have enough cash to make a one-time purchase of the allotment. Practically speaking, it is clear that allowing beneficiaries to draw goods from FPS shops only once a month reduces administrative burden for the FPSs. But a coupon system could have beneficial effects without imposing very high administrative costs. These and other improvements are discussed in a recent evaluation of the TPDS by the government's PEO (PEO 2005). But, as discussed in this section, even greater improvements may be possible by moving away from the in-kind design of TPDS altogether, and towards a voucher system.

4. Framework for Describing Lessons Learned from US Experience on Eligibility Rules

As noted in the above comparisons of food assistance programs in India and the US, whereas FSP specifies eligibility to assist families suffering from short-term poverty, TPDS/AAY focuses rules on identifying families subject to circumstances contributing to long-term poverty. Fortunately, research in the US on structuring eligibility rules has analyzed the impacts of program features intended to assist families throughout the spectrum of poverty measures, ranging from those reflecting monthly circumstances to others signaling low resources available throughout a year or longer.

This section describes the micro-simulation framework relied upon in the following discussion to assess the consequences of adopting alternative FSP eligibility regimes on program participation and costs. This empirical apparatus comes from the work of MaCurdy and Marrufo (2006a, 2006b). The framework produces findings revealing how variations in eligibility rules influence precisely which types of poor families receive benefits, and how much programs cost in terms of their benefit pay-outs and administrative costs. The discussion below begins by describing the basic parameters making up eligibility determination for a food assistance program, and it then briefly outlines the micro-simulation model. The next section summarizes the empirical findings produced by this simulation setting that are relevant for understanding the important tradeoffs encountered in targeting families experiencing short-term verses long-term poverty conditions.

4.1   Basic Characteristics of an Eligibility Determination Regime and Candidate Plans

Developing an eligibility policy involves prescribing a "reporting plan" for the food support program.   Establishing such a plan consists of making choices about five distinct features:
- Retrospective or prospective budgeting
- Budget period
- Frequency of reporting
- Fixed interval or change reporting
- Re-certification period

Each of these features plays a vital role. The first item refers to whether the income reported to the local food stamp office is income already earned in a prior period (retrospective) or income that one expects to earn in a coming period (prospective). The budget period is the length of the period for which income must be reported. Reporting can happen at varying frequencies, ranging from every month to annually. Given a particular frequency, a report can be of two types, either "fixed interval" or "change"; the first choice requires a report to be made at a particular point in time, while the latter choice requires a report to be filed only if income or assets (or other circumstances) change by a specified amount. Actions taken after reporting can vary from simply changing benefit levels to re-evaluating eligibility. Finally, the fifth item refers to the maximum length of time one can be on food stamps before undergoing a full eligibility and benefit re-determination.

The findings of interest in this paper consider the consequences of adopting the following six reporting plans for the food stamp program:
- Monthly reporting (baseline regime)
- Semi-annual change reporting
- Semi-annual fixed interval reporting

- Semi-annual Nutrition Tax Credit (NTC)
- Semi-annual Nutrition Tax Credit supplemented with monthly FSP
- Annual Nutrition Tax Credit supplemented with monthly FSP

Monthly reporting involves new eligibility certification and benefit calculation every month. Semi-annual change reporting requires re-certification every six months, as well as reporting of large changes in income, assets, or household status in between certification visits. Specifically, participants must report a change in income, assets, or family size that results in ineligibility or increases FSP benefits by at least $50 per month. Semi-annual fixed interval reporting is the same, but does not involve the reporting of any changes. These three regimes all involve the same eligibility criteria and benefit formula as are used currently in the FSP. Under the semi-annual Nutrition Tax Credit, any FSU eligible for the Earned Income Tax Credit over a six month period is eligible for food stamps, and is not eligible otherwise. The last two policy regimes supplement the NTC with monthly food stamps, which allows FSUs to be eligible if they meet the current eligibility criteria or if they are eligible for the EITC. Benefits under the NTC-only regime are calculated using average monthly EITC earnings, while benefits under the last two "mixed" regimes involve taking the maximum over the currently defined FSP benefits and the EITC-based benefits.

Table 4.1 presents a succinct summary of the characteristics of the six reporting plans above. This table lists the period of earnings used to determine eligibility, the months when enrollment can occur, the sources of application, and the length of the reporting period. More details about these eligibility rules can be found in MaCurdy and Marrufo (2006a).

These candidate reporting plans cover the spectrum of targeting benefits to families in short-term and long-term poverty circumstances. The Monthly Reporting Plan qualifies families for food assistance who experience short-term poverty; families are eligible if their income falls below a threshold and their assets are not too high. At the other extreme, the Semi-Annual Nutrition Tax Credit targets benefits to families who experience longer-term poverty; these families cannot receive benefits unless their disposable income falls below the threshold for six months in a row. (Considering an annual version of the Nutrition Tax Credit does not yield any new insights beyond those revealed in the following discussion.) The remaining reporting plans appearing in the above list provide mixtures of these extremes. Their potential role is to cover the same populations at lower administration costs. Whereas the Monthly Reporting Plan implies the highest cost of operation since it requires monthly monitoring, the Semi-Annual Nutrition Tax Credit implies the lowest cost since it involves monitoring income only every six months and no verification of assets. The other plans introduce features to perform less monitoring per recipient than the Monthly Reporting Plan, but attempt to still provide benefits to families in short-term poverty.

4.2   Key Features of the MID-SIPP Model

The *Monthly Income Dynamics, Survey of Income and Program Participation (MID-SIPP)* model provides a convenient mechanism with which to analyze the consequences of a large range of changes to food stamp rules. For details about the model, see MaCurdy and Marrufo (2006a, 2006b); here, we only cover the features of the MID-SIPP briefly. The model derives its name from the micro data it utilizes, the Survey of Income and Program Participation (SIPP). The SIPP is the premiere data set in the US for studying the usage of government welfare, whether one is interested in the FSP, Temporary Assistance for Needy Families (TANF), or any

other federal program. The survey gathers information from a nationally representative sample of households over a 32-month period. Data collection happens at interviews that occur once every 4 months, where all adult household members are interviewed.[17] At each interview, the respondent answers a large range of questions about income sources, whether from work, pensions, transfer programs, or other sources. Moreover, income in each month of the collection period is reported. Respondents also provide information on a wide range of assets. While there are various rounds of the SIPP, we use data from the twelve months of federal fiscal year 2002.

Using these data, we adopt a simulation approach. We use observed household structure to form Food Stamp units (FSUs) in each SIPP household, and utilize the detailed panel data to track FSU income dynamics month-by-month. Given a fully specified FSP policy regime, we apply the eligibility rules, benefit formula, and reporting scheme to the monthly data to determine initial eligibility and benefit levels. We use a simple rule to determine which FSUs participate in FSP among the eligible families, and then use the reporting scheme to determine how FSP participation and eligibility will change over time for a FSU. In doing so, the model keeps track of the number of administrative reports that have to be filed in the given policy regime. The model then uses survey data on time use of food stamps staff in California to determine the administrative time cost involved in each regime. That is, the simulation approach provides a way of projecting eligibility for program benefits, collection of food stamp benefits, and administrative activity under alternative policy regimes.

4.3   Step-by-Step Implementation of the MID-SIPP Model

The MID-SIPP model implements the following seven steps, which this section briefly describes:
   (1) Classify persons into FSUs and re-weight
   (2) Determine each FSU's eligibility status and potential benefits for each month
   (3) Correct eligibility and reported participation spells for the seam problem
   (4) Calibrate SIPP participation rates to the Food Stamp Program Quality Control (FSP-QC) data
   (5) Simulate eligibility and participation spells
   (6) Simulate administrative activity
   (7) Summarize FSP outcomes and administrative activities under the candidate reporting plan
The first step in the empirical analysis groups all individuals into FSUs, which are themselves defined by a policy choice. MID-SIPP implements an algorithm to assign members of households to FSUs in a manner consistent with eligibility rules. Given the implied set of FSUs, the analysis formulates sample weights to create nationally representative depictions of all segments of the US population. Given a definition of the FSUs, the second step simply involves applying the eligibility rules and benefit formula under the policy regime to the data, providing us with a month-by-month indicator of whether a FSU is eligible and a value for potential benefits if it is eligible.

The third and fourth steps involve refinements to the monthly data to correct potential

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[17] As time goes on, adults may move from the initial household and join new households with adults who were not in the original sample. The SIPP follows any adults in the original sample and surveys all adult members in these new households.

problems in the SIPP. The "seam problem" in the SIPP refers to the phenomenon that survey respondents report changes in income, assets, and program participation more often at the beginning and end of the four month survey periods, due to recollection problems. The MID-SIPP corrects for this by re-distributing the probability of such changes occurring over the recollection period, in a way that preserves the basic patterns in the data. The fourth step is necessary because under-reporting of program participation is a well-known problem in the SIPP. To overcome this issue, the MID-SIPP model assigns weights to each sample observation in the SIPP. The weights are created in such a way that key moments in the national population are matched correctly. To determine the national population of food stamp recipients, the model utilizes administrative data from the Food Stamp Quality Control data set. The MID-SIPP model performs this calibration to the national population in a variety of dimensions, so that many features of the national population are matched as closely as possible.

The fifth and sixth steps involve the simulation of outcomes, using the refined SIPP data with revised weights, assigned eligibility statuses, and assigned benefit levels. The analysis produces estimates of the distributional characteristics of outcomes for any segment of the national population. The primary outcomes of interest include the length and incidence of eligibility spells, the length and incidence of food stamp collection, and the number of administrative tasks undertaken to operate the program.

The MID-SIPP offers an extremely flexible method of simulating the impact of policy changes, without having to resort to a complicated structural economic model. To see this, imagine dividing the FSUs into G groups along some dimension of interest. Suppose we are interested in assessing the impact of a policy on outcome y. Assessing the impact on the distribution of y over the entire population involves determining how the policy shifts the distribution of the FSUs across the G groups, as well as the distribution of y among the FSUs within each group. To illustrate, suppose we have two groups, TANF beneficiaries and non-TANF beneficiaries, and suppose we are interested in the outcome y of food stamp participation. Note food stamp participation will be very high among TANF beneficiaries due to automatic eligibility. We want to project the impact of a policy change that expands the number of TANF beneficiaries. The MID-SIPP projects this impact by shifting more of the distribution to the TANF beneficiaries group in the calculation of overall food stamp participation. Alternatively, assume the policy change of interest is a change in the food stamp rules that makes everyone eligible for an entire year if they qualify for food stamps in a particular month. The MID-SIPP will project this impact by extending the participation spell of any FSU seen to be participating in any month. This extension will occur in both the TANF and non-TANF groups. One may think that a policy change like this would also elicit a behavioral response of greater participation among eligibles. If this is the case, then more sophisticated techniques can be used to shift the distribution of y within both groups.

The seventh step entails producing a series of statistics projecting outcomes under alternative eligibility regimes. For the discussion here, the simulation framework provides results for the six candidate reporting plans listed in Section 4.1. As described above, these plans offer a range of targeting mechanisms for supporting various categories of poor families, with different administration costs required to carry out the monitoring of eligibility.

The choice of a reporting plan has direct implications for simulated eligibility, participation, and administrative activity. To illustrate, Table 4.2 shows the differences between two possible

reporting plans, monthly fixed reporting and quarterly fixed reporting. The table considers the case of a specific FSU that satisfies the eligibility criteria for the first time in March and then takes up benefits for the first time in April. This hypothetical FSU continues to satisfy the eligibility criteria through May, though its income level changes (warranting a change in benefits). It no longer satisfies the eligibility criteria in June and afterwards.

Under monthly fixed reporting, the simulation would indicate that the FSU is eligible in March-May, takes up benefits in April and May, and has two differing benefit levels B1 and B2 in those two months of participation. In terms of administrative activity, officials file an initial application for the FSU in April, and re-evaluate eligibility and benefits in each month thereafter. A fixed report is filed in May, and it is actionable because the FSU's benefit level has changed. A case closure is filed in June because the FSU is no longer eligible. Next, turn to the case of quarterly fixed reporting. Under this reporting plan, re-evaluation of eligibility and benefits only happens every three months after initial enrollment. Officials file an initial application in April, when the FSU begins to take up benefits. But eligibility status and benefits are then left constant for a period of three months. Therefore, the FSU would now be simulated as eligible and participating in June, and simulated benefits would be B1 for all three months. Eligibility re-determination occurs in July, when officials realize the FSU no longer qualifies and consequently close the case.

As Table 4.2 makes clear, simulating the effects of a reporting plan not only produces projections of the eligibility and participation for each FSU in each month, it also provides the ability to calculate the total number of administrative reports filed by each FSU. To convert these total numbers of reports into measures of total staff hours under a reporting plan, we use the following procedure. Suppose program staff spend: L_1 hours per reviewing applications; L_2 hours per reviewing reports; and L_3 hours per implementing changes. The total hours (L), then, of estimated staff time required under the reporting plan is given by:

$$L = L_1 * \text{(Total initial applications and re-certifications)} +$$
$$L_2 * \text{(Total fixed and change reports)} +$$
$$L_3 * \text{(Total actionable reports, change reports, and case closures)}.$$

We use this formula to supply estimates of administrative activity under each simulated reporting plan. The estimates of L_1, L_2, and L_3 are taken from a time-allocation study of California food stamp workers described in MaCurdy and Marrufo (2006b).

5. Projections of Participation and Administrative Costs Under Different Eligibility Rules

The micro-simulation framework projects the impacts of alternative policy regimes on food stamp participants and administrators. Here, we examine the findings for the six specific policy regimes described in Section 4.1, which are summarized in Table 4.1. We take the Monthly Reporting Plan as our baseline regime, and then entertain several alternatives. Below, we do not discuss results concerning the impact of alternative regimes on eligibility alone, and instead jump straight to the consequences for participation, benefits, and administrative activities.[18]

Before considering alterative plans, Section 5.1 opens with a discussion describing a set of baseline results on projected participation, benefit levels, and administrative activity under the Monthly Reporting Plan simulation. The main findings suggest that even though benefits flow disproportionately to high-risk groups, participation among the poorest families is still remarkably low. The evidence also reveals a large degree of heterogeneity in dependence on food stamps, with some families remaining on the program for only short periods. The precise targeting of the Monthly Reporting Plan – which keeps down targeting errors and enables short-term usage of food stamps – comes at the cost of an extremely large amount of administrative activity. Section 5.2 goes on to compare these baseline results to several alternative eligibility policies. For each of the three areas of interest – participation, benefit pay-outs and administrative activity – the analysis compares outcomes under the five alternative regimes to the Monthly Reporting Plan outcomes. The findings reveal two fundamental insights: first, food subsidies focused on broad measures of longer term poverty (such as the pure Nutrition Tax Credit schemes) fail to help a large number of poor who experience short-term declines in income; and, second, a scheme such as the Semi-Annual Change Reporting Plan can balance the low targeting errors of monthly reporting with the low administrative activity of reporting plans that have longer time horizons. Section 5.3 briefly summarizes these two insights and their implications for food assistance policy.

5.1   Projected Impacts for Monthly Reporting

For the baseline scenario of monthly reporting, Tables 5.1-5.3 summarize estimated participation, benefit levels, and administrative activity in the year 2002, using all available observations in the SIPP weighted to be nationally representative of FSUs in the US. In reviewing the findings, we first describe the structure of the tables, which also delineates the characteristics of the families distinguished in the analysis. This breakdown of findings into various sub-groups presents the distributional effects of different regimes by family type. The tables presenting results projected for participation and benefits for the five alternative policy regimes appearing later in this discussion have the same structure as the tables described here.

5.1.1   Participation Under Monthly Reporting

We begin with Table 5.1. As indicated in the rows of the table, we consider two different

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ways of categorizing families that are relevant for policy:[19]

- *By Family Structure*
  The top set of rows separate the population into various types of families. The first row in this set refers to all families. The second row narrows the sample to families with at least one child, defined as anyone under 18 years. We also look at family structures categorized by marital status and the presence and number of children.

- *By Family Income Relative to Federal Poverty Threshold*
  The next set of rows breaks down families according to the ratio between family income and the federal poverty threshold for the family type.

The columns of Table 5.1 present three categories of statistics for each of the FSU groups:

- *Composition of Families*
  The first data column, labeled "% of All Families," lists the percentage of all families (i.e., FSUs) that fall into the given demographic category. Thus, looking at the 5th row, where the group is "Married Families with Children," 21% of all families fall into this category.

- *Measures of FSP Participation*
  The second and third columns, "% Collecting Benefits" and "% of All Recipients" are easily confused. "% Collecting Benefits" is the percentage of families in the demographic group receiving FSP benefits. In contrast, "% of All Recipients" is the percentage of participating FSUs that are in the demographic group at hand. Referring to results for married families with children, for example, the second data column ("% Collecting Benefits") shows that 5% of married families with children receive FSP benefits. The third data column "(% of All Recipients")" shows that 14% of all participating FSP families are married families with children.

- *Months of FSP Collection*
  The last group of columns shows the months of participation during a given year. The column labeled "Mean" is the average number of participating months for a family in a particular group. The next two columns show two other aspects of the distribution of the length of participation spells, the 20th and 80th percentiles. Returning to married families with children, the average length of participation is 7 months, while the bottom 20% of these families participate for no more than 3 months and the top 20% participate for the entire year.

The tables present some striking findings. Beginning with participation rates, we see mixed results concerning the targeting of the program. According to Table 5.1, 8% of all families are projected to receive Food Stamps for at least one month during 2002. As we would hope, the program disproportionately serves the poorest families or those families most likely to be at risk. For instance, families under 70% of the poverty line make up 9% of all families, but about half of all food stamp families. Families headed by single women with children make up only 8% of

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[19] Clearly, the simulation model allows us to look at a wide array of sub-groups beyond these. MaCurdy and Marrufo (2006a) provide results for other sub-groups.

all families, but about 38% of the food stamp population. In 2002, 55% of participating families had children, and about two thirds of the participating families with children were headed by single mothers. This, combined with low rates of participation for families well above the poverty line, suggests that the program rules focus resources on poorer households.

Unfortunately, however, participation appears quite low among the groups we may be most concerned about. Measuring participation by a family's poverty level (in the second set of rows) uncovers a notable finding: only 45% of the very poor families—annual income below 70% of the poverty level— are projected to receive Food Stamps. Families consisting of single mothers with children had the highest participation rates in 2002 (37%), but this still appears quite low. Of course, to know whether these rates of participation are low, we should actually look at the number of participants out of the total number of eligible families, rather than out of the total number of families in a group. Comparing information on FSP eligibility and participation offers considerable insights into how "take-up" rates of food stamps differ across families. The information on eligibility is available in MaCurdy and Marrufo (2006a). Differences in eligibility rates and participation rates there show one out of every three eligible families participated in FSP (8% participating versus 25% eligible). Take-up rates were the highest among welfare recipients and eligible single mother-headed families. At least two thirds of eligible families in these population sub-groups collected benefits; this high take-up is partly due to the categorical eligibility of many welfare recipients. However, only a little over half of eligible "very poor" families received benefits, despite the fact that very poor families are eligible for extended periods of time.

A final notable point that emerges here concerns FSP dependency. Within any sub-group in Table 5.1, there is remarkable variation in FSP dependency. More than 20% of participating FSUs collected benefits every month of the year while another 20% received at most 4 months of FSP benefits. The same holds true for families in the two lowest poverty level categories. In fact, in most sub-groups shown in Table 5.1, at least 20% of families spent an entire year on the program, suggesting that many participating families depend on Food Stamps as a regular source of support. In results not shown here, we find that fifty percent of FSP families participated 9 or more months during the year.

5.1.2   Benefit Levels Under Monthly Reporting

Next, we turn to Table 5.2, which describes benefit collection under the monthly reporting simulation. The sub-groups in the rows of the table are identical to the rows of Table 5.1, and the first three columns are the same as well. The remaining four columns are new. The column labeled "Share of all FS" answers the question, "Out of all the Food Stamp dollars that go to families, what percentage goes to families that fall in this category?" The "Mean" column is the average annual amount a family receives from FSP. This is an average across recipient families only, with benefits expressed in 2002 dollars. Returning to the married with children example, 18% of all food stamp dollars go to these families. Among these families who participate, the average amount that they receive is $2,023. The final two columns give the 20th and 80th percentiles of the amount FSP families receive. Looking again at married families with children, these columns show that 20% of participating families of this type receive at most $570 and 80% receive at most $3,106.   We should note that projected annual FSP payments over all families equal $18.0 billion, which closely approximates the official FSP numbers for the year. This close agreement suggests that our simulation framework replicates the actual distribution of benefits

across FSUs.

Table 5.2 again provides some hopeful signs concerning targeting. The distribution of caseloads and benefits (columns 3 and 4, respectively) indicates that families with children and, more specifically, families headed by single mothers represent the largest groups of beneficiaries. In 2002, families with children received 77% of the Food Stamp dollars, while benefits collected by single mothers made up 54% of the budget. A closer look into the distribution of benefits reveals married couples are an important group in FSP (22% of the benefits), even though they have the lowest participation rates (3%). In results not shown in Table 5.2, but included in MaCurdy and Marrufo (2006a), we find that families with annual income below the poverty level represented 83% of Food Stamps beneficiaries, collecting 89% of Food Stamps dollars. Families receiving other forms of public assistance represented 53% of all participating units and 56% of Food Stamp payments.

The benefit levels that individual families receive vary markedly. Participating families received on average $1,495 in 2002 and collected benefits for 8 months, roughly yielding an average monthly benefit of $187. The highest annual benefits were given to families with three or more children ($2,693), single women with children ($2,149) and poor families with children ($2,252 for married and $2,261 for single; these numbers are included only in MaCurdy and Marrufo (2006a)). Differences in the 80th and 20th percentiles (columns 6 and 7) suggest there was substantial dispersion in Food Stamps benefit levels within all family types. For all families taken together, benefits received by the highest 20th percentile were about eight times the benefits received by the lowest 20th percentile. This again suggests that a subset of FSP recipients are substantially dependent on the program, while other families could use the program as a source of temporary income support during a momentary shock.

Differences in benefits between eligible families and participants reflect differences in the composition of families choosing to participate when eligible for the program. Based on results in MaCurdy and Marrufo (2006a), but not shown here, we see that on average, participating households were eligible for significantly higher benefits ($1,495) compared to the overall eligible population ($859). This reflects the fact that families expecting higher benefits have greater incentives to bear the administrative costs associated with filing an application and following reporting rules. Also, participating families were eligible for benefits for longer periods of time: in results from MaCurdy and Marrufo (2006a), 50% of the participating families collected benefits for more than 9 months, while 50% of all eligible families were eligible for benefits for more than 6 months. Comparing the eligibility results in MaCurdy and Marrufo (2006a) to the results in Table 5.2 indicates that only about a third of eligible FSUs collect benefits (8% out of an eligible 25%), whereas 58% of potential FSP dollars are paid out in benefits ($18.0 billion out of a potential $31.3 billion). This reflects the increased participation incentives for families with higher benefits.

5.1.3   Administrative Burden Under Monthly Reporting

Finally, the simulation model allows for a detailed examination of administrative activities under alternative regimes. In particular, our analysis tracks whether an FSU files a report in each month and, if so, which type of report it files (Table 5.3). Our model distinguishes among six types of reports:

(1) <u>Initial applications</u>: reports that occur whenever a non-certified FSU starts participating in FSP after at least one month of no participation,

(2) <u>Actionable reports</u>: fixed-interval reports that occur when a participating FSU reaches the end of the reporting period and benefits have to be changed according to the circumstances presented in the report,

(3) <u>Non-actionable reports</u>: fixed-interval reports that occur when a participating FSU reaches the end of the reporting period and FSP benefits do not change,

(4) <u>Change reports</u>: reports that arise under non-fixed interval reporting regimes when certain specified changes occur in FSU income, asset levels, or size, between reporting periods,

(5) <u>Case closures</u>: reports filed to terminate a case, and

(6) <u>Re-certifications</u>: reports filed by a participating FSU to renew FSP eligibility.

Every report filed by a FSU falls into one of these categories. These reports form the columns of Table 5.3 (with the exception of "re-certifications", since fixed reports are indistinguishable from re-certifications in a monthly reporting regime). The rows of the table remain the same as in Tables 5.1 and 5.2. For each type of report, the column "Mean," shows the average number of the identified report types filed per FSU in a year. Because monthly reporting has no change reporting requirement, the Change Reports column in Table 5.3 is deliberately filled with zeroes.

Two notable points emerge from Table 5.3. First, initial applications and case closures are slightly more frequent among relatively wealthy families. In particular, families with annual incomes of at least 185% of the poverty threshold file an average of 0.9 initial applications per year, while families with incomes below 70% of the threshold file only 0.5 applications. The difference in case closures is not as large, but still exists. Such evidence reflects the fact that relatively higher income families are more likely to move in and out of the FSP. In keeping with the longer durations experienced by poorer families, those families under 70% of the poverty line file an average of 6.1 and 2.0 non-actionable and actionable fixed reports, respectively, while the most well-off families file an average of only 4.0 and 1.2.

A second point is that monthly reporting generates excessive administrative activity. For example, 77% of all filed fixed-interval reports are non-actionable (72.7 million non-actionable versus 22.3 million actionable fixed-interval reports over the course of the year, or an average of 6 non-actionable reports to every 1.8 that are actionable). In results shown in MaCurdy and Marrufo (2006a), we see that families with the largest ratios of actionable reports to total fixed-interval reports are families working more than 4000 hours a year (1.8 actionable reports out of 5 fixed reports) and families earning between $9 and $12/hour (1.9 actionable reports out of 6.5 fixed reports). Again, these families tend to have more variable income, and are therefore more likely to move off the program, or have their benefits changed. Even for these high turnover groups, however, more than 60% of reports are non-actionable.

Table 5.4 summarizes the implications of these report totals for administrative work hours, using results from the California time use survey described in MaCurdy and Marrufo (2006b). The monthly reporting regime is predicted to result in about 7.3 labor hours per FSP case, on average, leading to total staff hours of 88.2 million over the year 2002.

5.2   Consequences of Alternative Policy Regimes

We now turn to an analysis of the consequences of alternative policy regimes for participation, benefit levels, and administrative activities. Rather than go through each of the simulations separately, the discussion below focuses on comparisons across the alternative regimes. The tables containing projections for participation and benefit collection (Tables 5.5-5.9) are structured entirely analogously to Table 5.2 for the case of monthly reporting. The first sub-section below discusses these results. The second sub-section turns to a comparison of administrative costs under the baseline Monthly Reporting Plan and the five alternative plans. These results together demonstrate that semi-annual reporting regimes can have dramatically lower administrative burdens than monthly reporting regimes, without increasing errors of inclusion or exclusion by much. However, results for the Semi-Annual Nutrition Tax Credit scheme show that this is not true for every semi-annual design, and cast doubt on the effectiveness of a purely NTC-based system.

5.2.1   Participation Under Alternative Eligibility Regimes

We begin by considering the first three columns of Table 5.5, which give the results for participation under the Semi-Annual Change Reporting regime (simulation 1). Participation stays approximately the same as we change from monthly reporting (the baseline) to semi-annual change reporting. This follows from the fact that eligibility remains fairly steady as the regimes change, since take-up among eligibles is calculated in the same way for both the baseline and simulation 1. Importantly, behavioral changes – such as increased participation due to decreasing reporting costs under a semi-annual, rather than monthly, regime – are not taken into account in this version of the MID-SIPP model.

Semi-Annual Fixed Reporting (simulation 2, with results in Table 5.6) has slightly higher participation than the baseline, with a total take-up of about 100,000 more FSUs. This is possibly due to a slight rise in eligibility. The participation rate for all FSUs taken together (row 1) remains the same under semi-annual fixed reporting as under monthly reporting, at about 8%. However, participation rates among certain demographic groups rise slightly. For example, the percentage collecting benefits rises by one percentage point for single women with children. The largest rate change comes among poor families with children (59% to 61% for poor married families with children, and 81% to 84% for poor single parent families; these figures appear in MaCurdy and Marrufo (2006a)).

After moving to the Semi-Annual NTC as the sole determination of eligibility (simulation 3, Table 5.7), overall participation goes down, from 8% under monthly reporting to 7%. Much of the drop is due to a decline in eligibility; in fact, as we would expect, the 7% participation indicates a higher take-up rate within the eligible population than we see in the Monthly Reporting Plan. This is because families that are eligible for the EITC and the NTC are assumed to be automatically enrolled in the NTC. Within the overall drop in participation, there is a shift in the demographics of participating groups. The rate of participation for single women with children falls to 32% from 37% under monthly reporting. Only 31% of families with incomes less than 0.7 times the poverty line participated in the Semi-Annual NTC Plan, versus 45% under monthly reporting. In general, families who are not eligible for the EITC, such as families who do not work, and the poorest of the poor, have much lower eligibility and participation rates. The intensity of this effect is lessened somewhat because this simulation includes categorically

eligible families, such as those receiving welfare benefits; but even among these groups, participation fell. Therefore, the small change in overall participation from 8% to 7% masks important differences in impacts across sub-groups.

When the semi-annual NTC is used in conjunction with FSP monthly reporting (simulation 4, Table 5.8), participation grows significantly compared to all previous simulations. Under the Semi-Annual NTC/Monthly Reporting hybrid, 11% of all FSUs participate in the program (as compared to 8% for the baseline run, and simulations 1 and 2). This scenario increases participation among almost every demographic group. Gains were largest among those with annual incomes above the poverty level, and those working higher-paying jobs and more hours per year. For instance, among families with incomes below 0.7 times the poverty level, 47% participated under the hybrid monthly/semiannual NTC regime, as compared to 45% under monthly reporting, but among families with income from 1.3-1.85 times the poverty line, participation increased from 3% to 9%. Thus the poorest families make up a lower percentage of total food stamp beneficiaries (40%, as compared to 50% under monthly reporting). This does not mean that very poor families receive fewer benefits when the NTC is added on to the baseline scenario; it simply implies that few FSUs in this category were eligible for the EITC, a result in accordance with what we saw in simulation 3. Other impressive results include doubled participation for families with more than 1,000 working hours a year (see MaCurdy and Marrufo (2006a)). Since eligibility for these families stayed fairly constant from the baseline to the NTC/baseline combination, the higher participation rates are entirely the result of increased take-up produced by the NTC mechanism.

Using an annual NTC with FSP monthly reporting (simulation 5, Table 5.9) leads to higher participation than the baseline, but slightly lower than with the Semi-Annual NTC/Monthly Reporting combination (simulation 4). The annually-based hybrid regime garnered total participation of 10% of families, or 14.6 million - 1%, or about 1.5 million, less than the semi-annual version. The annual version had slightly longer average participation, 9 months versus 8 months under all the other scenarios. The longer participation reflects those FSUs participating under the annual NTC, who would either participate for the entire year or not at all. The Annual NTC/Monthly Reporting Plan increased participation in a similar demographic pattern as the semi-annual NTC hybrid; however, the magnitude of the change was smaller across all groups shown in Table 5.9.

5.2.2   Benefits Under Alternative Eligibility Regimes

In addition to figures on participation, Tables 5.5-5.9 contain information on benefit levels under each policy regime, broken down by the same sub-groups as discussed throughout. All numbers in the fourth through seventh columns of these tables refer to benefits paid under our projected participation for each simulation. As before, the mean, 20th percentile, and 80th percentile are all calculated conditional on participation.

As noted above, under semi-annual change reporting, about the same number and percentage of FSUs participate as under monthly reporting. However, benefit levels are slightly higher. Under the Monthly Reporting Plan (baseline), the mean benefits for a family with children — 55% of all recipients — are $2,105 a year. Under the Semi-Annual Change Reporting Plan (simulation 1), the mean benefits for the same group, also making up 55% of all recipients, are $2,158 a year. Looking at the benefit spread, semi-annual change reporting has a slightly wider

distribution, so that the people with the lowest amount of benefits generally get a little less than under monthly reporting, and the people with the highest amount of benefits generally get a little more.

Under the Semi-Annual Fixed Reporting Plan (simulation 2, Table 5.6) benefits again rise by a small amount. For instance, the mean benefits for a family with children are $2,171 a year. Total benefits rise under semi-annual fixed reporting due to a combination of increased caseload and slightly higher average benefits. The rise in average benefits probably marks some overpayment to families benefitting from the lack of change or monthly fixed reporting.

In Table 5.7, we see that using the Semi-Annual NTC Plan as the basis for food stamp benefits (simulation 3) leads to lower average benefits. This makes sense because the caseload in this scenario shifts to include more working families and families with higher incomes, who generally qualify for lower benefits. The very poorest families participating in this scenario (because of categorical eligibility) get similar or higher benefits than they did under monthly reporting, but they make up a much smaller percentage of the caseload.

When the FSP monthly reporting regime is added on to the semi-annual NTC (simulation 4, Table 5.8), average benefits rise, but remain below average benefits under the monthly regime. At the same time, total benefits rise above those paid under the monthly regime, due to increased participation. Average benefits for all FSUs decline from $1,495 under monthly reporting (baseline) to $1,479 under the combined Semi-Annual NTC/Monthly Reporting Plan. This does not mean that benefits decline for specific groups. For instance, for families living under 0.7 times the poverty line, average benefits actually rise, to $2,164 from $1,956 under the baseline. But because of the shifting composition of the caseload to include more working families and families with slightly higher incomes, mean benefits fall. Total benefits paid rise by about $5.8 billion, or 32%; this is roughly equivalent to the percentage rise in participation under this regime.

Total program expenditures, like participation, are slightly lower for the annual NTC combined with monthly reporting (simulation 5, Table 5.9), than for the Semi-Annual NTC/Monthly Reporting Plan (simulation 4). However, average benefits are higher for the Annual NTC/Monthly Reporting Plan than for any of the previous simulations. This reflects the increased length of time spent on food stamps under the annual NTC program; as seen in results from MaCurdy and Marrufo (2006a), participation spells rise by about one month for almost all demographic groups, leading to higher annual benefits as families stay on FSP for longer.

Table 5.10 summarizes the consequences of each of the policy regimes for key aspects of program delivery. The predicted annual caseload is lowest in the Semi-Annual NTC Plan; as we saw above, the reductions in the caseload strongly affect the poorest families. The highest annual caseload comes with a hybrid program in which a semi-annual NTC regime is supplemented with monthly reporting. This regime essentially covers all the families covered under the monthly reporting regime, but also automatically enrolls those working families who are eligible for the EITC. Average benefits differ somewhat across regimes, and differences for specific sub-groups of the population are potentially important to consider as well. The hybrid regimes have the largest program outlays, as we would expect. More unexpected is that moving from a monthly reporting regime to a semi-annual fixed or change regime does not result in the massive over-payments one might fear. Given the large savings in administrative costs this

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could produce (as discussed in the following section), this is important to keep in mind.

5.2.3   *Administrative Burden Under Alternative Eligibility Regimes*

Various measures of administrative burden under the different reporting plans are reported in Table 5.11, including the number of initial applications, the total number of fixed reports (actionable and non-actionable), and the number of reports requiring eligibility and benefits changes (the combined number of actionable fixed reports, change reports, and case closures). Using a time survey for caseworkers in California, we estimate the amount of time spent by staff on each type of report, as well as the administrative action required by the different types of reports. From this, as we discussed previously, we create a measure (also included in Table 5.11), of how many labor hours are required under each policy regime.

The excessive administrative activity under monthly reporting (baseline), noted before, is greatly reduced under semi-annual change reporting (simulation 1). This is especially noteworthy, as there is no concurrent reduction in caseload, and only a small rise, as we saw above, in average benefits paid. The total number of reports filed falls from 105.7 million under monthly reporting to only 31.0 million under semi-annual change reporting; most of this decrease is in the number of non-actionable fixed reports filed, which falls from 72.7 million per year to 4.4 million per year (these numbers cannot be seen directly from Table 5.11, but come from tables in MaCurdy and Marrufo (2006a); this will be true in portions of the discussion below as well). The number of actionable fixed reports also falls by more than half, due to the longer time frame involved in these fixed reports. For instance, a family with children filed an average of 5.8 non-actionable and 2.1 actionable fixed reports each year under monthly reporting. Under semi-annual change reporting, a family with children files an average of 0.3 non-actionable and 0.8 actionable reports. This leads to a marked difference in staff hours, which are 88.2 million under the Monthly Reporting Plan and only 48.2 million under the Semi-Annual Change Reporting Plan.

When we move to semi-annual fixed reporting (simulation 2), administrative activity drops even further. The lack of change reporting (7.0 million reports filed under the Semi-Annual Change Reporting Plan) accounts for most of the drop, with case closures also falling slightly; however, offsetting these declines, actionable fixed reports rise from the Semi-Annual Change Reporting Plan (12.1 million from 8.9 million), though they remain well below monthly reporting levels (22.3 million). The rise in fixed actionable reports is likely due to FSPs whose income or qualifications change during the 6 month period in which they qualify for food stamps; under change reporting, these families would file a change report, but under fixed reporting, they file an actionable fixed report at the end of the period. The drop in administrative costs under the Semi-Annual Fixed Reporting Plan is slightly offset by the potential overpayment of benefits to families who no longer qualify for food stamps.

Under the Semi-Annual NTC Plan (simulation 3), the only administrative activity is processing the initial applications. If all initial applications filed under this reporting plan took the same amount of time to review as initial applications under monthly reporting, the semi-annual NTC would generate 2.1 hours of administrative activity per case, or less than a third of the time spent per case under monthly reporting. Even this may be an underestimate of the difference, since under the NTC, initial applications would be much simpler to review than under monthly reporting requirements. We should note again that, for the simulation, we allow the

categorically eligible to continue on the monthly reporting regime. We do not count these reports for the categorically eligible in the administrative activity totals for this simulation.

Combining the semi-annual NTC and monthly reporting (simulation 4) leads to an overall rise in labor hours, but a decrease in hours spent per FSU relative to the baseline. The semi-annual hybrid regime is more efficient than the baseline, garnering more initial applications than monthly reporting (14.7 million versus 5.9 million) and fewer non-actionable fixed reports (58.5 million rather than 72.7 million under monthly reporting). The total number of labor hours rises because of the high increase in participation, and the significant amount of time associated with initial applications. Under the NTC/baseline combination, as under the NTC-only regime, it is likely that administrative hours are over-counted, because NTC applications would take less time to process than standard FSP applications.

The hybrid Annual NTC/Monthly Reporting Plan (simulation 5) has fewer total administrative hours than the semi-annual NTC/baseline combination (simulation 4), and about the same as the baseline monthly reporting regime. This reporting plan also requires fewer hours per FSP served: 6.1, down from 7.3 under monthly reporting and 6.7 under the semi-annual hybrid plan. This plan is still notably less efficient than semi-annual change or fixed reporting (simulations 1 and 2), which only require 3-4 hours per FSP. The difference between annual and semi-annual combined plans is due to a drop in the number of initial applications, from 14.7 million under the semi-annual combined plan to 9.6 million under the annual version. This makes sense, since those applying through the NTC only apply once a year instead of twice a year; furthermore, there are fewer total participants under the annual variant.

5.3   Overview of Findings and Implications for Policy

The above comparison of alternative policy regimes yields a variety of interesting insights into the tradeoffs faced by policy makers in designing food assistance programs. Programs that target the long-term poor with simple eligibility criteria can save administrative expenses, but they can also induce higher participation among the better-off poor while still failing to cover important groups of needy families who suffer temporary poverty. The enhanced participation implies higher pay out in benefits, which partially offsets administrative savings.

The best illustration of these insights can be seen by comparing outcomes for the Semi-Annual NTC and Monthly Reporting Plans. Whereas the monthly scheme monitors and bases benefits on a family's immediately available resources with precise measures used to evaluate these resources, the NTC regime relies on broad measures of poverty aimed at identifying families with low long-term resources. While the Semi-Annual NTC Plan mechanically increases take-up rates among the working poor (who automatically enroll because of their EITC eligibility), it also reduces participation among the poorest groups (which are not eligible for the EITC due to lack of work) and among all families with temporary income declines. Moreover, the substantial reductions in manpower requirements – about a 75% reduction compared to the Monthly Reporting Plan – come at the cost of adding the large number of beneficiaries who are enrolled in the Semi-Annual NTC but did not participate in the baseline. To see how many such beneficiaries there are, we can simply look at the difference in participation between the hybrid Semi-Annual NTC/Monthly Reporting Plan and the Monthly Reporting Plan, which is about 4 million FSUs. (Adding monthly reporting to the Semi-Annual NTC Plan implies a caseload of 16.1 million, while the Monthly Reporting Plan considered alone has 12.1 million cases. In the

case of the Annual NTC/Monthly Reporting Plan, this difference in participation is smaller, since the annual criteria exclude some marginally long-term poor families.) This source of increased participation translates into benefit payments of $5.8 billion, which readily outpaces the savings achieved in administrative costs by the Semi-Annual NTC Plan. (Just as above, this figure can be inferred by comparing the benefits associated with the Semi-Annual NTC/Monthly Reporting Plan and the Monthly Reporting Plan.) Therefore, the Semi-Annual NTC Plan would have greater total outlay (benefits plus administrative expenses) than the Monthly Reporting Plan, even as it shifted benefits toward the better-off poor.

    The above comparisons also reveal hybrid eligibility regimes that achieve major savings in administrative expense without also producing large increases in benefit costs due to higher participation. The Semi-Annual Change Reporting Plan, for example, provides an option mixing the attractive features of the pure Semi-Annual NTC and Monthly Reporting schemes. We see in the above analysis that shifting from the Monthly Reporting Plan to Semi-Annual Change Reporting leaves participation mostly unchanged because of the requirement that significant changes must be reported to and acted upon by authorities. Consequently, the amount spent on benefits increases only slightly, with a widening of the distribution of benefits. On the other hand, the Semi-Annual Change Reporting Plan yields a substantial savings in administrative costs; it cuts operating manpower requirements by almost half. Even if one were to consider "change reporting" as being infeasible, the Semi-Annual Fixed Reporting Plan also offers an attractive alternative to Monthly Reporting. Implementation of this semi-annual plan implies only a marginal increase in benefit expenses over the Monthly Plan, and it saves a considerable sum in administrative expenses. Both these semi-annual plans considered here have benefit targeting properties similar to the Monthly Reporting Plan due to their reliance on qualifying families for benefits at the time their resources first fall below a threshold, with careful measures used to evaluate these resources. The different properties of the NTC Plans come about due to their reliance on less precise measures of economic resources. In light of these findings, we have seen states move to instituting varieties of semi-annual plans, given the flexibility allowed in the 2002 Farm Bill.

    Translating these findings into the Indian policy environment is difficult due to the lack of data describing the patterns of income dynamics applicable for relevant groups of poor Indian families, and uncertainty about how well the factors used to assign BPL status relate to viable resources available for food consumption. Of the six policy regimes considered above, the Semi-Annual NTC with no monthly reporting probably most closely resembles the TPDS, since the TPDS utilizes non-precise measures of low permanent income to identify the BPL population. In most localities, the TPDS would probably avoid the problem of missing the non-working poor that occurs in the Semi-Annual NTC since such a population is unlikely to exist in India given the nature of its social safety net. However, the problem of missing temporarily poor families would remain, and could be significant. To devise a reform of the TPDS that would cover such families at a manageable administrative cost would require detailed information on the dynamics of poor families' disposable income and asset profiles. The results from analysis of US data hold out hope that improvements in the TPDS are achievable.

6. Concluding Remarks

The TPDS/AAY programs play an important role in India's social safety net, but shortcomings in the programs have led to calls for reform. For any food support program, in India or otherwise, contemplated reforms necessarily focus on three policy issues: determination of eligibility, setting of benefit levels, and design of benefit delivery. Because these issues are basic to the operation of any food subsidy program, Indian policymakers can potentially learn from the experiences of other countries. We have argued that the United States' Food Stamp Program (FSP) presents an especially fruitful case study in this regard, as this program has itself adapted markedly in response to criticism in the past thirty years.

The US experience with reforms of FSP addresses the policy challenges faced by India's decision makers in varying degrees of relevance. Little can be said, for example, about the matter of benefit levels. This is ultimately a value judgment decided within a country's political process. Nor do recent US reforms provide insights about the design of benefit delivery, since this has been mostly ignored in policy debates. FSP provides subsidies in the form of a voucher scheme as opposed to the in-kind form supplied by TPDS. As outlined in this paper, strong economic arguments exist favoring vouchers. Three factors underlie this argument: first, subsidies provided as money typically allow beneficiaries the flexibility to improve their welfare over an in-kind transfer and save program costs at the same time; second, whereas current implementation of the TPDS forces beneficiaries to obtain their food goods in lump sum bundles, the use of vouchers readily permits recipients to spread purchases out over the month; and third, the use of vouchers or money means that eligible families can obtain their benefits from a wide range of vendors doing business in the private sector, which elicits improved service and prices through competitive pressures.

Potential policy lessons do exist for India, however, in understanding what has been learned in the US about designing eligibility rules to balance the tradeoff between targeting food subsidies to reach short-term poor families verses the higher administrative burden inherent in administering a program that conducts the more frequent monitoring required to detect families experiencing temporary poverty. Essentially, FSP incurs a higher operating cost to ensure that it serves short-term poor families, and the TPDS avoids these expenses by focusing support primarily on the long-term poor. In an effort to lower the administrative burden of the FSP, in recent years US policymakers have explored different eligibility structures. The aim has been to devise new eligibility structures that simplify the documentation required to verify qualifications for benefits while still covering circumstances that imply dire circumstances for families over short periods.

To study the consequences of alternative eligibility regimes in the US system, this paper relies on findings produced by a micro-simulation framework developed in MaCurdy and Marrufo (2006a, 2006b). This framework exploits longitudinal SIPP data to emulate the consequences of FSP rule changes on eligibility, participation, benefit levels, and administrative burden. The analysis considers the impacts of adopting six candidate eligibility policies, which cover the spectrum of tradeoffs between targeting benefits to families in short-term poverty and saving administrative expenses through reduced monitoring. The results from these simulations yield two key interesting insights: first, food support programs that determine eligibility over long time horizons – such as every year – fail to reach many families that suffer short-term shocks and fall into poverty temporarily; and second, rules can be designed in such a way to

minimize the exclusion of these short-term poor while still keeping administrative burden low. The limited effectiveness of the Nutrition Tax Credit, which has been proposed in the US as a supplement to the Earned Income Tax Credit, speaks to this first point. Meanwhile, a semi-annual change or fixed reporting scheme performs about as well as monthly reporting in terms of targeting, with a small fraction of the administrative burden imposed by the monthly scheme.

These two insights have interesting implications for India's consideration of future reforms of eligibility determination in TPDS/AAY. Relevant to the first insight, currently a family's BPL status in India is generally determined by factors associated with persistent poverty, and the permanent-income oriented methods pursued in the 2002 BPL census reinforced this policy. This creates one of two unattractive sets of circumstances for TPDS coverage. Either the BPL level is low enough to exclude families who experience only short-term temporary poverty from receiving any benefits during their times of need; or the BPL level is set high enough to always include these families, which means that temporarily poor persons receive benefits over a longer period than their qualifications justify. Because of the lack of recent, high frequency panel data in India, it is difficult to know how important short-term income fluctuations are for families that are poor or on the verge of poverty. However, anecdotally one would expect short-term fluctuations to be severe, whether due to seasonality in rural labor demand, weather shocks faced by rural farmers, or high variance self-employment earnings in urban areas.

The second insight from the US experience suggests that it may be possible to design eligibility rules in TPDS/AAY to serve families in temporary poverty while keeping the administrative burden manageable. A fundamental reason for the long time horizon – and, more recently, permanent income focus – of BPL determination methods is the administrative difficulty inherent in identifying BPL families. In the Indian context, verifying income can be especially difficult in many areas, making the use of asset-based measures more attractive. However, the simulations summarized in this paper reveal that a semi-annual change reporting regime effectively balances the tension between exclusion errors and administrative cost. Implementing such an eligibility structure may be possible in India, and would become even more administratively feasible if the push to computerize BPL lists at the local government level comes to fruition.

Of course, the Indian variant of a semi-annual change reporting scheme in the TPDS/AAY system could look very different from what it looks like in the US. The time horizon for certification need not be six months, and the thresholds necessitating the reporting of changes in economic circumstances could be broadened to lessen administrative burden. Moreover, factors correlated with income fluctuations (e.g., non-revenue seasons for farmers growing crops) could replace income itself in designating qualification for benefits. Ultimately, the information needed to design a reliable TPDS that mitigates both short-term and long-term food insecurity, while keeping administrative costs low for both government agencies and beneficiaries, will require cultivation of new data resources in India that reveal families' income and poverty dynamics. Given an understanding of these profiles, analyses of the sort considered in this paper for the US offer a promising venue for discovering which food assistance policies are likely to best meet the needs of India's poor.

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Table 4.1
Summary of Reporting Plans

Reporting Plan	Eligibility Based On Earnings:	Enrollment Month	Application Form	Reporting Period (Months)
Monthly (Baseline)	For the reporting month	Anytime	FSP	1
1. Semi-Annual Change Reporting	For the reporting month	Anytime	FSP	6 / Change
2. Semi-Annual Fixed Reporting	For the reporting month	Anytime	FSP	6
3. Semi-Annual Nutrition Tax Credit	Semi-annual monthly average	January or July	EITC Form on Tax Return	6
4. Semi-Annual Nutrition Tax Credit and Monthly FSP	NTC: Semi-annual monthly average FSP: for the reporting month	NTC: January or July FSP: Anytime	EITC Form or FSP	NTC: 6 FSP: 1
5. Annual Nutrition Tax Credit and Monthly FSP	NTC: Annual monthly average FSP: for the reporting month	NTC: January FSP: Anytime	EITC Form or FSP	NTC: 12 FSP: 1

Table 4.2
Simulating Eligibility & Participation Spells for Two Reporting Plans

Month	Monthly Fixed Reporting				Quarterly Fixed Reporting			
	Eligible	Take-Up	Benefits	Admin. Activity	Eligible	Take-Up	Benefits	Admin. Activity
February	No	No	0		No	No	0	
March	Yes	No	0		Yes	No	0	
April	Yes	Yes	B1	Initial Application	Yes	Yes	B1	Initial Application
May	Yes	Yes	B2	Fixed Report (Actionable)	Yes	Yes	B1	
June	No	No	0	Case Closure	Yes	Yes	B1	
June	No	No	0		No	No	0	Case Closure

Table 5.1
Summary of FSP Participation under Monthly Reporting
(Projections 2002)

| Family Characteristics | % of All Families | Participation | | Months of Participation | | |
| | | % Collecting Benefits | % of All Recipients | Mean | Percentiles | |
					20%	80%
All Families	100%	8%	100%	8	4	12
With Children	31%	14%	55%	8	4	12
3 or More Children	6%	27%	21%	8	3	12
Married	49%	3%	20%	7	3	12
With Children	21%	5%	14%	7	3	12
Single Women	31%	17%	64%	8	4	12
With Children	8%	37%	38%	8	4	12
Single Men	20%	7%	17%	8	3	12
Family Poverty Level:						
< 0.7	9%	45%	50%	8	4	12
0.7 – 1.3	12%	29%	43%	8	4	12
1.3 – 1.85	11%	3%	4%	5	2	9
1.85+	67%	0.3%	2%	6	2	9
Projected Annual Totals	12.1 Million FSUs					

Table 5.2
Summary of FSP Benefit Collection under Monthly Reporting
(Projections 2002)

| Family Characteristics | % of All Families | Participation | | Benefits | | | |
| | | % Collecting Benefits | % of All Recipients | Share of All FS | Mean | Percentiles | |
						20%	80%
All Families	100%	8%	100%	100%	$1,495	$330	$2,544
With Children	31%	14%	55%	77%	$2,105	$647	$3,380
3 or More Children	6%	27%	21%	38%	$2,693	$806	$4,480
Married	49%	3%	20%	22%	$1,686	$424	$2,724
With Children	21%	5%	14%	18%	$2,023	$570	$3,106
Single Women	31%	17%	64%	67%	$1,572	$338	$2,829
With Children	8%	37%	38%	54%	$2,149	$705	$3,486
Single Men	20%	7%	17%	11%	$971	$234	$1,547
Family Poverty Level:							
< 0.7	9%	45%	50%	66%	$1,956	$488	$3,333
0.7 – 1.3	12%	29%	43%	31%	$1,053	$220	$1,684
1.3 – 1.85	11%	3%	4%	2%	$784	$200	$1,424
1.85+	67%	0.3%	2%	1%	$989	$190	$1,633
Projected Annual Totals	$18.0 Billion in Total Program Expenditures						

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Table 5.3

Description of FSP Administrative Reporting Activity under Monthly Reporting

(Projections 2002)

Family Characteristics	# Initial Applications Mean	# Nonactionable Fixed Reports Mean	# Actionable Fixed Reports Mean	# Change Reports Mean	# Case Closure Reports Mean
All Families	0.5	6.0	1.8	0.0	0.4
With Children	0.5	5.8	2.1	0.0	0.4
3 or More Children	0.5	5.8	2.2	0.0	0.4
Married	0.6	5.1	1.8	0.0	0.5
With Children	0.6	5.0	1.9	0.0	0.5
Single Women	0.4	6.4	1.9	0.0	0.4
With Children	0.4	6.2	2.2	0.0	0.4
Single Men	0.5	5.8	1.6	0.0	0.4
Family Poverty Level:					
< 0.7	0.5	6.1	2.0	0.0	0.4
0.7 – 1.3	0.5	6.3	1.8	0.0	0.4
1.3 – 1.85	0.6	3.7	1.5	0.0	0.6
1.85+	0.9	4.0	1.2	0.0	0.5
Projected Annual Totals	5.9 Million Reports	72.7 Million Reports	22.3 Million Reports	0.0 Million Reports	4.8 Million Reports

Table 5.4

Hours Spent in Administrative Activities per Year Under Monthly Reporting

(Projections 2002)

Reporting Plan	Number of Reports			Manpower Requirements	
	Initial Applications (Millions)	All Reports---Nonactionable, Actionable, and Case Closure (Millions)	Reports Requiring Benefit and Eligibility Changes---Actionable and Case Closure (Millions)	Average Labor Hours per FSP Case	Total Staff Hours (Millions)
Monthly	5.9	95.0	27.1	7.3	88.2

Table 5.5

Summary of FSP Benefit Collection under Semi-Annual Change Reporting

(Projections 2002)

Family Characteristics	% of All Families	Participation		Benefits			
		% Collecting	% of All Recipients	Share of All FS	Mean	Percentiles	
						20%	80%
All Families	100%	8%	100%	100%	$1,525	$318	$2,669
With Children	31%	14%	55%	77%	$2,158	$618	$3,493
3 or More Children	6%	27%	21%	38%	$2,745	$820	$4,479
Married	49%	3%	20%	22%	$1,738	$424	$2,952
With Children	21%	5%	14%	19%	$2,091	$557	$3,419
Single Women	31%	17%	64%	67%	$1,605	$332	$2,892
With Children	8%	37%	38%	55%	$2,202	$686	$3,537
Single Men	20%	7%	17%	10%	$962	$200	$1,545
Family Poverty Level:							
< 0.7	9%	45%	50%	66%	$1,998	$500	$3,459
0.7 – 1.3	12%	29%	43%	30%	$1,072	$210	$1,682
1.3 – 1.85	11%	3%	4%	2%	$813	$200	$1,424
1.85+	67%	0.3%	2%	1%	$972	$190	$1,482
Projected Annual Totals	$18.4 Billion in Total Program Expenditures						

Table 5.6

Summary of FSP Benefit Collection under Semi-Annual Fixed Reporting

(Projections 2002)

Family Characteristics	% of All Families	Participation		Benefits			
		% Collecting Benefits	% of All Recipients	Share of All FS	Mean	Percentiles	
						20%	80%
All Families	100%	8%	100%	100%	$1,541	$336	$2,700
With Children	31%	15%	55%	77%	$2,171	$686	$3,474
3 or More Children	6%	27%	21%	38%	$2,808	$900	$4,572
Married	49%	3%	20%	23%	$1,808	$450	$3,120
With Children	21%	6%	14%	19%	$2,166	$558	$3,474
Single Women	31%	17%	64%	67%	$1,612	$340	$2,898
With Children	8%	38%	38%	54%	$2,191	$750	$3,493
Single Men	20%	7%	16%	10%	$942	$240	$1,545
Family Poverty Level:							
< 0.7	9%	46%	50%	65%	$1,994	$510	$3,414
0.7 – 1.3	12%	29%	43%	31%	$1,107	$228	$1,800
1.3 – 1.85	11%	3%	4%	3%	$928	$228	$1,575
1.85+	67%	0.3%	2%	2%	$1,017	$190	$1,482
Projected Annual Totals	$18.7 Billion in Total Program Expenditures						

Table 5.7

Summary of FSP Benefit Collection under Semi-Annual Nutrition Tax Credit

(Projections 2002)

Family Characteristics	% of All Families	Participation		Benefits			
		% Collecting Benefits	% of All Recipients	Share of All FS	Mean	Percentiles	
						20%	80%
All Families	100%	7%	100%	100%	$1,454	$381	$2,241
With Children	31%	14%	59%	80%	$1,976	$739	$3,009
3 or More Children	6%	24%	21%	39%	$2,699	$920	$4,410
Married	49%	4%	25%	30%	$1,754	$542	$2,824
With Children	21%	7%	19%	27%	$2,020	$767	$3,079
Single Women	31%	13%	57%	59%	$1,486	$390	$2,357
With Children	8%	32%	36%	49%	$1,962	$746	$2,976
Single Men	20%	7%	17%	11%	$915	$216	$1,324
Family Poverty Level:							
< 0.7	9%	31%	38%	57%	$2,145	$757	$3,353
0.7 – 1.3	12%	30%	50%	37%	$1,072	$270	$1,711
1.3 – 1.85	11%	6%	9%	5%	$819	$202	$1,330
1.85+	67%	0.3%	3%	1%	$785	$256	$1,319
Projected Annual Totals	$15.9 Billion in Total Program Expenditures						

Table 5.8

Summary of FSP Benefit Collection under Semi-Annual Nutrition Tax Credit and Monthly Reporting

(Projections 2002)

Family Characteristics	% of All Families	Participation		Benefits			
		% Collecting Benefits	% of All Recipients	Share of All FS	Mean	Percentiles	
						20%	80%
All Families	100%	11%	100%	100%	$1,479	$336	$2,453
With Children	31%	20%	57%	78%	$2,016	$613	$3,270
3 or More Children	6%	33%	20%	37%	$2,736	$754	$4,628
Married	49%	6%	26%	29%	$1,640	$405	$2,718
With Children	21%	10%	19%	24%	$1,916	$529	$3,121
Single Women	31%	20%	57%	60%	$1,553	$338	$2,712
With Children	8%	45%	35%	49%	$2,087	$662	$3,316
Single Men	20%	9%	17%	12%	$992	$210	$1,536
Family Poverty Level:							
< 0.7	9%	47%	40%	58%	$2,164	$653	$3,624
0.7 – 1.3	12%	40%	45%	34%	$1,106	$240	$1,803
1.3 – 1.85	11%	9%	9%	5%	$831	$210	$1,316
1.85+	67%	1.1%	7%	3%	$773	$238	$1,240
Projected Annual Totals	$23.8 Billion in Total Program Expenditures						

Table 5.9

Summary of FSP Benefit Collection under Annual Nutrition Tax Credit and Monthly Reporting

(Projections 2002)

Family Characteristics	% of All Families	Participation		Benefits			
		% Collecting Benefits	% of All Recipients	Share of All FS	Mean	Percentiles	
						20%	80%
All Families	100%	10%	100%	100%	$1,597	$340	$2,764
With Children	31%	18%	57%	78%	$2,195	$659	$3,552
3 or More Children	6%	31%	20%	37%	$2,948	$810	$5,060
Married	49%	5%	25%	28%	$1,815	$412	$2,976
With Children	21%	8%	18%	24%	$2,144	$600	$3,429
Single Women	31%	19%	59%	60%	$1,641	$345	$2,909
With Children	8%	42%	36%	49%	$2,219	$715	$3,552
Single Men	20%	8%	17%	12%	$1,118	$230	$1,620
Family Poverty Level:							
< 0.7	9%	46%	42%	61%	$2,305	$658	$3,888
0.7 – 1.3	12%	37%	46%	32%	$1,127	$230	$1,861
1.3 – 1.85	11%	5%	6%	4%	$960	$200	$1,620
1.85+	67%	0.9%	6%	3%	$843	$231	$1,440
Projected Annual Totals	$23.3 Billion in Total Program Expenditures						

Table 5.10

Summary of FSP Benefits Collected During the Year

(Projections 2002)

Reporting Plan	Annual Caseload (Million FSUs)	Average Benefits	Total Benefits (Billions)
Monthly	12.1	$1,495	$18.0
Semi-Annual Change	12.1	$1,525	$18.4
Semi-Annual Fixed	12.2	$1,541	$18.7
Semi-Annual Nutrition Tax Credit	10.9	$1,454	$15.9
Semi-Annual Nutrition Tax Credit and Monthly Reporting	16.1	$1,479	$23.8
Annual Nutrition Tax Credit and Monthly Reporting	14.6	$1,597	$23.3

Table 5.11

Administrative Acitivities per Fiscal Year Under FSP Reporting Plans
(Projections 2002)

Reporting Plan	Number of Reports			Manpower Requirements	
	Initial Applications (Millions)	All Fixed Reports--- Nonactionable,	Reports Requiring Benefit and Eligibility Changes---	Average Labor Hours per FSP Case	Total Staff Hours (Millions)
Monthly Baseline	5.9	95.0	27.1	7.3	88.2
Semi-Annual Change Reporting	5.9	13.3	20.7	4.0	48.2
Semi-Annual Fixed Reporting	5.2	16.1	15.7	3.4	41.3
Semi-Annual Nutrition Tax Credit	6.8	0	0.0	2.1	22.5
Semi-Annual Nutrition Tax Credit and Monthly Reporting	14.7	77.3	24.8	6.7	107.6
Annual Nutrition Tax Credit and Monthly Reporting	9.6	77.2	23.9	6.1	89.7