SYSTEM DYNAMICS OF UTAH WELFARE REFORM
Extended Abstract

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Introduction

The Personal Responsibility and Work Reconciliation Act of l996 was structured and its success has been measured to date primarily within an economic context of historically low employment and a booming economy. Long-term changes in social conditions or economic reality, many aspects of which have suddenly surfaced and are becoming better defined, may alter the perceived success or failure of this experiment with welfare reform. In addition, subtle administrative practices or client responses that are difficult to observe and measure may in time affect program performance and alter perceptions of the reform's success. For example, the number of documented welfare cases may drop, but the ranks of the working poor may swell. Over time this could have a negative societal impact that is greater than the apparent positive impact brought about by reduced numbers of welfare recipients.

Because of the complexity and dynamic uncertainties inherent in programs introduced in Utah and elsewhere in response to welfare reform mandates, it is important to develop a comprehensive understanding of the potential responses of these programs to changes in critical parameters such as unemployment rate or labor force growth. The ability to conduct multi-scenario analyses of welfare reform impacts over long periods of time and as a function of a variety of economic and political perturbations is important if society is to be adequately prepared to respond when necessary. More importantly, the ability to predict the future impact of welfare reform as a function of either economic or policy trends leads to an equally powerful ability to make adjustments at the onset of these trends. Timely adjustments could in turn ensure a cost-effective response that protects the interests and well-being of all members of society.

Due to their complexity, the development of a comprehensive understanding of the long-term dynamic behavior of social and economic systems in response to potential change is difficult. Fortunately, *system dynamics* provides a useful tool to understand and better manage socio-economic systems.

Model-construction Process

System dynamics techniques were applied to an analysis of Utah welfare reform using STELLA system dynamics software developed by High Performance Systems. In keeping with accepted system dynamics model-construction procedures, the dynamic problem posed by Utah welfare reform was discussed with a comprehensive group of stakeholders, with each member of the group selected because of his or her extensive understanding of and experience with some segment of the Utah welfare system. These

discussions were useful to both “bound” the system into a manageable modeling problem, and to help identify the “reference modes” of system behavior. Along with the development of reference modes of behavior, critical potential policy changes that might improve or worsen the behavior of the system were also identified. A clear problem statement, a reference behavior, and an agreed upon set of policy options resulted in the identification of the important associated problem variables, which were then translated into the language of stocks and flows. Finally, critical cause-and-effect relationships, again identified with stakeholder assistance, were represented by interconnections and additional analytical detail in the computer model.

This paper will address the steps in the model-construction and learning processes as they have been developed and applied to date for the Utah Family Employment Program (FEP), which is Utah’s welfare-to-workforce assistance program. Particular attention will be paid to issues of data deficiencies, feedback structures, lagged responses and simultaneous interdependencies. Procedures employed to structure modeler-stakeholder interaction will be detailed. Preliminary results of the model, focusing on the sensitivity of the model to various policy scenarios, will also be discussed.

Competing Hypotheses

Once a model has been constructed and the hypothesis tested, good system dynamics practice suggests that conclusions be drawn and that these conclusions then be tested for robustness. During the welfare model-construction process, there were two hypothesis, or *stories* that appeared to be critical to the understanding of welfare reform. Both of these stories can be interpreted in terms of Figure 1, which is a flow chart of the core of the Utah Family Employment Program (FEP) as it is currently understood.

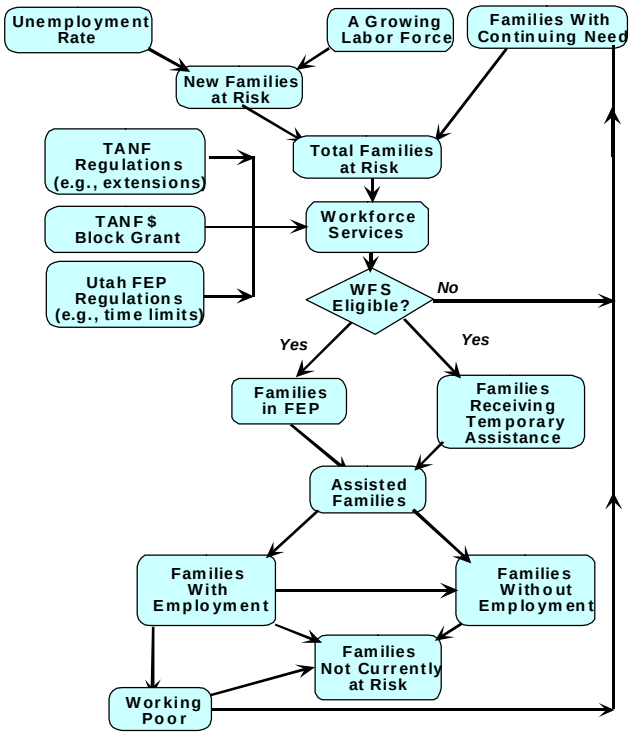

Figure 1. Schematic of FEP Flow Diagram

The first story is grounded in recent administrative experience with strongly declining caseloads in the Utah Family Employment Program. It is a story of programmatic success in moving clients from welfare dependency into the workforce. In Figure 1, this story may be seen in the flows of clients from "Total Families at Risk" through the "Workforce Services" eligibility screening into either "Temporary Assistance" or "Families in FEP" to previously "Assisted Families." Diminution in the rates at which

families become at risk plus increases in the rates at which families are assisted has led to a decline in the number of families on welfare. This is an important measure of success of which administrators are notably proud.

The second story is grounded in anecdotal evidence of increasing service demands among Utah's charitable service organizations. It is story wrought with trepidation about an emerging shift in welfare service delivery responsibilities from the public to the charitable sector. In Figure 1, this story is seen in the flows from "Assisted Families" directly to "Families Without Employment" or indirectly after some lag time from "Families With Employment" to "Families Without Employment". These families plus families working for poverty wages flow back to the top of the system as "Families with Continuing Need". Some of these families will once again approach Workforce Services for assistance only to find they have exhausted their benefits. Others will not go back knowing the help available does not solve their problems. These families will have continuing needs. Their numbers will grow as the population grows. Their numbers will grow rapidly if the unemployment rate goes up. And their principal recourse in society for needed assistance will be the charitable sector. Figure 2 is a sample of actual STELLA output that conforms to the two stories outlined above.

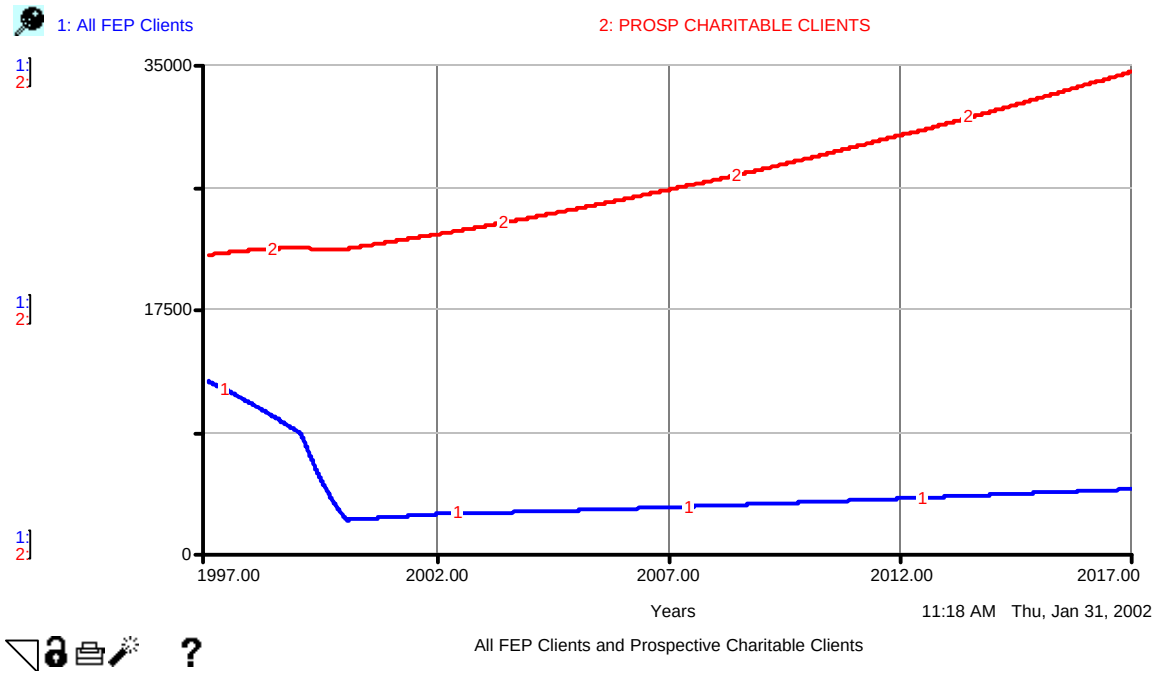

Figure 2. Sample Output

Once confidence was gained that the resulting STELLA model produced the general behavior patterns observed, sample scenarios were developed to test the robustness of the model and provide learning insights. For example, one obviously important question is how potential caseloads might trend in response to regional economic conditions and changes in welfare program policy. Economic scenarios permit exploration of possible change in the poverty level and in average wages or unemployment rates among at-risk families. Potential changes in welfare program policy and administration affect client eligibility time limits, hardship extensions, recidivism among former FEP clients, client caseloads per case worker, etc. The range of results obtained from various simulations suggests that, depending upon the exact nature of the change in policy or applicable economic conditions, there exists a potential for both minimal reduction as well as a significant increase in potential caseloads. However, an unexpected—although, in retrospect, not surprising—result is that FEP policy changes are most likely to be reflected within the FEP system itself, rather than in society as a whole. This is because the number of actual FEP clients is small relative to the total population that experiences economic or social distress.

A quick indication of some specific results will characterize the nature of our investigations. First, speculation about the effects of an increasingly regressive distribution of earnings on FEP client caseloads was explored but the impacts were found to be of minor significance. The economic factor whose effect was most directly incurred was the prospect of employment among adult members of at-risk households. Modest changes in the general level of unemployment were highly leveraged throughout this segment of the labor force and held important consequences for the condition of at-risk households. Second, of the program policy options that might allow FEP to respond more amply to client needs, an increase in program eligibility time limits from three to five years had the greatest effect. The relative non-effect of other options, while initially surprising, was understandable in light of a more systematic appreciation of program structure. Third, the magnitude of the difference between the number of households served by FEP and the number at risk and in need did lend to the impression that FEP played a minor role in the affairs of Utah's needy populations. It did become evident, however, that if consistently well administered over a long period of time, Utah's Family Employment Program could contribute notably to the welfare of a significant portion of Utah's needy families. This paper will address these and other findings as well as the contingencies necessary for the affirmation of conclusions.

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