Assessing the Impact of U.S. Government Assistance on Job Creation

Josef Brada
El-hadj Bah
Stephen Batalden
Kathleen Evans-Romaine

CONTENTS

PREFACE ..... **III**

EXECUTIVE SUMMARY ..... **IV**

I. OVERVIEW OF USAID STRATEGIES IN EASTERN EUROPE AND EURASIA **1**

II. CONCEPTUALIZING JOB CREATION AND MEASURING EMPLOYMENT **4**

DEFINING JOB CREATION AND EMPLOYMENT 4
EMPLOYMENT CREATION AS A BENCHMARK. 5
WHEN AND HOW SHOULD THE EFFECTS OF ASSISTANCE BE MEASURED? 7

III. FINDINGS FROM THE LITERATURE **12**

MACROECONOMIC PERFORMANCE AND THE LABOR MARKET. 12
MICROECONOMIC PERFORMANCE AND STRUCTURAL CHANGE 13
IMPLICATIONS FOR JOB CREATION IN TRANSITION ECONOMIES. 14

IV. ESTIMATING EMPLOYMENT CREATION FROM MACROECONOMIC DATA **16**

THE KEYNESIAN MULTIPLIER. 16
GROWTH THROUGH INSTITUTION BUILDING. 17

V. ESTIMATING EMPLOYMENT CREATION FROM FIRM-LEVEL DATA **19**

THEORETICAL CONSIDERATIONS. 19
SURVEY METHODOLOGY 21
SURVEY RESULTS: GROWTH RATE ANALYSIS. 22
SURVEY RESULTS: REGRESSIONS 27
SURVEY RESULTS: IMPLICATIONS FOR EFFECTIVENESS OF USAID PROGRAMS 30
SURVEY RESULTS: INDIRECT EFFECTS 33

VI. CONCLUSIONS AND RECOMMENDATIONS **36**

REFERENCES **39**

FIGURES AND TABLES **45**

APPENDIX A:
REVIEW OF THE LITERATURE ON LABOR MARKETS IN THE TRANSITION ECONOMIES 68

APPENDIX B:
DO TECHNICAL ASSISTANCE PROGRAMS CREATE NEW SPENDING, NEW JOBS, OR NEW EMPLOYMENT? 89

APPENDIX C:
KEYNESIAN MULTIPLIER ANALYSIS FOR BULGARIA 92

APPENDIX D:
SELECTED REGRESSION RESULTS 94

APPENDIX E:
SURVEY QUESTIONNAIRE (ENGLISH VERSION) 105

APPENDIX F:
USAID, MICROFINANCE, AND GROWTH BARRIERS: CASE STUDIES 119

FIGURES

FIGURE 1–EMPLOYMENT BY USAID ASSISTANCE 23
FIGURE 2–LONG-TERM EFFECT OF ASSISTANCE 29
FIGURE 3–SHORT-TERM EFFECT OF ASSISTANCE 30
FIGURE 4–PER CAPITA GDP 45
FIGURE 5–TOTAL EMPLOYMENT 46
FIGURE 6–TOTAL EMPLOYMENT – GDP ELASTICITY FOR INCREASING AND DECREASING GDP 47
FIGURE 7–GROSS AVERAGE MONTHLY WAGES 48
FIGURE 8–EMPLOYMENT/POPULATION 49
FIGURE 9–EMPLOYMENT/LABOR FORCE 50
FIGURE 10–REGISTERED UNEMPLOYMENT 51
FIGURE 11–THE GRAY ECONOMY AS % OF GNP AND THE REGISTERED UNEMPLOYMENT RATE 52
FIGURE 12–UNEMPLOYMENT: REGISTERED AND LABOR FORCE SURVEY RATES 53
FIGURE 13–INDEX OF GROSS FIXED CAPITAL FORMATION 54
FIGURE 14–REPORTED BARRIERS TO GROWTH BY COUNTRY 55
FIGURE 15–PER CAPITA GDP IN BULGARIA, KYRGYZ REPUBLIC, AND MACEDONIA 56

TABLES

TABLE 1–EST. MULTIPLIER-MEDIATED JOB CREATION, BULGARIA 17
TABLE 2–EMPLOYMENT GROWTH RATES FOR USAID BENEFICIARIES AND CONTROLS 24
TABLE 3–USAID ASSISTANCE, STATISTICAL SIGNIFICANCE 25
TABLE 4–SIZE OF SHADOW ECONOMY % GNP 2002/3 57
TABLE 5–SECTORAL SHARES OF EMPLOYMENT IN SELECTED TRANSITION ECONOMIES 58
TABLE 6–SECTORAL SHARES OF EMPLOYMENT IN CIS COUNTRIES 59
TABLE 7–SMES' SHARES OF EMPLOYMENT IN SELECTED TRANSITION ECONOMIES 59
TABLE 8–SMES AND SMES PER 1000 POPULATION IN 2000 60
TABLE 9–BUSINESS CLIMATE INDICATORS 61
TABLE 10–FDI IN TRANSITION ECONOMIES 62
TABLE 11–DEFINITION OF VARIABLES 63
TABLE 12–SAMPLE REGRESSION FOR BULGARIA: TWO YEAR GROWTH EFFECT 64
TABLE 13–SAMPLE REGRESSION FOR MACEDONIA: TWO YEAR GROWTH EFFECT 65
TABLE 14–USAID PROGRAMS WITH AT LEAST THREE CONTACTS IN SAMPLE 66
TABLE 15–SUMMARY RESULTS ON THE EFFECT OF USAID PROGRAMS ON JOB GROWTH 67

PREFACE

This report summarizes the results of a one-year evaluation of the impact on job creation of United States Government (USG) economic growth programs from 1991 to 2006 in countries that received assistance through Support for East European Democracy (SEED) and the Freedom Support Act (FSA). This investigation was sponsored by USAID and conducted by the Melikian Center for Russian, Eurasian, and East European Studies at Arizona State University (ASU), in cooperation with Higher Education for Development (HED).

The report has two halves, one theoretical and one applied. The theoretical half includes a sketch of USG economic growth efforts in the region (Section I), a discussion of the definition and measurement of job creation (Section II), and an overview of the literature on economic assistance and employment growth in transitioning economies (Section III).

The applied half of the report describes attempts to quantify the impact of USG assistance using macroeconomic data, project reports, and field surveys. Section IV presents a method for producing baseline estimates of the impact of USG assistance using macroeconomic data and USG expenditure data. Section V discusses the difficulty of attempting to derive quantitative estimates of job creation from project reports, outlines an alternative methodology based on field studies, and summarizes the results of implementing that methodology in three test countries: Bulgaria, Macedonia, and Kyrgyzstan.

Following the body of the report are appendices containing expanded, stand-alone discussions of the development of labor markets in transition economies (Appendix A), job creation and its measurement (Appendix B), and the role of microfinance in the development of transition-economy labor markets (Appendix F). Appendices C, D, and E provide background material and details on techniques and analyses discussed in the report.

Although a report of this nature necessarily involved the work of scores of contributors, ASU would particularly like to acknowledge the analytical contributions of Dr. Jean Tesche (U. Delaware/U. Sarajevo), Dr. Victor Agadjanian (ASU Center for Population Dynamics), Dr. John Earle (W E Upjohn Institute, Kalamazoo, MI); the research work of Gayane Buniatyan, Karen Napoli, Janelle Hoeflschweiger, Mike and Erin Hutchinson, and David Brokaw; the support and assistance of USAID mission staff, particularly Katia Alexieva (Sofia), Margareta Lipkovska (Skopje), and Irina Krapivina (Bishkek); the exemplary logistical work of fieldwork organizers Talantbek Sakishev and Marlen Madybaev (M-Vector, Bishkek) and Boge Bozinovski (Stratum Research, Skopje); and the gracious assistance of Kuvatbek Bapaev, Olga Chernysheva, Patrick Coughlin, Ana Damovska, Mohammad Fatoucrechie, Chris Kagy, Pete Roberts, David Schacht, Nancy Schiller, Gulnara Shamshieva, Pavel Velev, Nikolay Yarmov, Earle Yates, and many other employees of current and past USAID contractors without whose help the fieldwork reported here would not have been possible.

EXECUTIVE SUMMARY

This investigation of the impact of U.S. Government (USG) assistance on the labor markets of Eastern Europe and Eurasia goal was designed to answer three core questions.

1. What is job creation and how can it be measured for evaluation purposes?

From a conceptual point of view, the number of new jobs created should not be viewed as the sole, or even most important outcome of assistance projects. Focusing on the number of jobs created biases programs in directions that may not be as beneficial as they would be if a broader view of "job creation" were adopted. A more appropriate measure of job creation should include criteria such as:

- Pay and benefits
- Duration of employment
- Training value of employment
- Transferability of skills from one position to other positions
- Promotion opportunities of those positions
- Extent to which persons in those positions are working up to their productive capacities
- Extent to which employment provides transferable spillovers benefiting other workers or firms.
- Effect on the efficiency and flexibility of the labor market

While these statistics can serve as more effective indicators of improvements in labor market outcomes, the set of indicators most effective for program evaluation will depend on the goals of the program.

In Section III of the report and in Appendix A we review the large scholarly literature on labor markets in transition economies. This literature leads to further important conclusions regarding the meaning of job creation in transition economies.

- Given the overemployment that existed in transition countries under communism, a decline in the number of people employed was both inevitable and in many cases desirable in order to make firms more competitive. Counting jobs created is likely to severely underestimate the impact of USAID programs.

- Long-term improvements in living standards occurred not through increases in the number of people working in transition economies but through increases in the quality of jobs and the wages they paid. This further stresses our emphasis on not counting "jobs" and on improvements in labor productivity.

It is important to develop a uniform framework to serve as a basis for the generation of standard indicator sets for future projects. In Section II we make suggestions about the form of that framework. We stress the importance of establishing evaluation criteria prior to project implementation and warn of the dangers that simplistic or poorly conceived measures can introduce.

2. How have USG programs contributed indirectly to job creation?

The experience of transition economies shows that improvements in living standards are due primarily to increases in productivity. Research on transition economies as well as research on a broader set of countries shows that improvements in living standards are linked to changes in the quality of economic institutions. Such changes in transition economies prove to be linked closely to progress in creating markets, strengthening property rights and promoting privatization, and creating market-supporting institutions such as financial markets, legal systems, etc.

USAID programs directed toward supporting efforts at economic reform will have served to increase output and thus, if not to raise the number of individuals employed, will have increased the incomes of

workers by raising output and productivity. Our own survey of firms finds that reducing environmental barriers to firm growth has an important and measurable effect on firms' ability to grow and to increase the number of jobs the firms can offer.

Given the lack of data on the number of firms that participated in USAID programs, we are not able provide estimates of jobs created or of the increases in wages that resulted from USAID programs in the economy as a whole. We do show that the effect of well-designed programs has significant positive effects for our sample of firms, however.

3. How have USG programs contributed directly to job creation?

Job creation resulting from direct assistance programs was quantified by collecting data on aid recipients before, during, and for some period following their participation in USAID programs. An exhaustive review of the publicly available information on FSA and SEED projects, however, revealed that only a small minority of projects collected useful and comprehensive job-creation information and that definitions and methodologies varied from project to project, and in some cases within project from year to year. This makes it impossible to produce reliable quantitative estimates from published project data.

Given the lack of useful data on job creation at firms that participated in USAID programs, we undertook field surveys of USAID recipients and a matched set of non-recipient firms in three countries; Bulgaria, Macedonia, and Kyrgyzstan.

- The data from Kyrgyzstan were inconclusive.
- In Bulgaria and Macedonia firms receiving USAID assistance showed a job creation rate of at least 10% per year more than unassisted firms for the two years following assistance.
- In Macedonia, the trend was stronger (up to 20% per year more job creation) and of longer duration.
- We estimate that 90 Macedonian aid recipients sampled added at least 800 jobs—and perhaps as many as 1,600 jobs—that would not otherwise have been created.

Below we summarize the main findings of the report.

USAID Strategies, "Direct" vs. "Indirect" Assistance (Sections I & II). The primary objective of USAID assistance to SEED and FSA in the early phases of transition was "indirect," intended to improve the business environment by creating and strengthening market-supporting institutions (rule of law, property rights, regulation, financial markets, trade barriers). Recipients were generally government entities. As economic infrastructures evolved, USAID shifted its emphasis to "direct" assistance; the provision of resources (financial assistance, technology, and business know-how) to firms and associations. This reflects the theoretical finding that indirect assistance is most effective early in transition and direct assistance later. Successful replication of USAID programs in other transition economies should take into account that indirect assistance to develop market institutions and government capacity may have to precede direct assistance to firms.

The report investigates:

- Whether the transition countries needed such assistance.
- Whether "job creation" is a useful measure of the effectiveness so of programs designed to meet the needs of these countries.

- Whether the phasing of assistance programs described above can be justified by economic theory and by practical experience.
- Whether one form of assistance was more effective than any other.
- Whether there are changes in program design and delivery as well as program management that would benefit USAID.

Findings from the Literature (Section III & Appendix A). A review of the scholarly literature on labor markets in transition economies finds that differences in living standards arise from differences in productivity, not differences in resources. The key determinant of productivity, in turn, is the type and quality of institutions. "Indirect" assistance—assistance that improves the business environment through strengthening the legal structure, creating and reforming institutions, accelerating privatization, improving regulatory environment, reducing the tax burden—can effect major improvements in the labor markets and living standards of transition economies. "Direct" assistance—assistance targeting individual organizations—can improve labor market outcomes by helping firms to grow through increased competitiveness, but only when the necessary infrastructure is in place.

Other key findings from the literature are:

- A decline in the number of people employed was inevitable and desirable, given the overemployment that existed under communism. (Thus assessments based on counts of jobs will underestimate the positive impact of USAID programs.)
- Long-term improvements in living standards occurred not through increases in the number of people working but through increases in the quality of jobs and the wages they paid.
- While emerging small and medium-sized enterprises play an important role in the improvement of labor market outcomes, large firms remain critical sources of employment.

Conceptualizing and Measuring Job Creation (Section II). In order to measure the impact of USAID interventions on labor markets, it is first necessary to identify a quantifiable metric of success. Counting "jobs created" is a poor measure of program effectiveness; job counts can even be counterproductive (to the extent that they create incentives to design programs so that they appear successful on the basis of a uni-dimensional indicator). A better indicator is a broader set of labor market outcomes, such as wages, types of jobs, etc. that are more directly related to the welfare of workers and the good functioning of the economy.

- Pay and benefits
- Duration of employment
- Training value of employment
- Transferability of skills from one position to other positions
- Promotion opportunities of those positions
- Extent to which persons in those positions are working up to their productive capacities
- Extent to which employment provides transferable spillovers benefiting other workers or firms

Recommendations that would lead to a defensible definition of successful improvements in the labor markets and to practical methods for measuring the impact of USAID's efforts include:

- USAID should develop a uniform, but flexible conceptual framework for evaluating programs using broad criteria of labor market outcomes. In this way similar programs can be compared on the basis of the same metric. This framework should take into account the criteria listed above. The framework should allow for different measurement protocols for different types of programs.

- USAID should select measurement criteria in advance of project implementation.
- USAID should consider all stakeholders as it chooses measurement protocols.
- USAID or its contractors should gather information on recipients as they enter programs. USAID should track recipients during and after programs. These data should be maintained until the last date at which USAID anticipates the need to refer to the program. Effectively, this means storing the data in perpetuity. Storing data and maintaining access to it is a prerequisite for any effort to evaluate the efficacy of completed USAID programs.
- While contractor reports on the financial and logistical aspects of their contract performance is important, USAID needs to develop standard methodologies that contractors can use to gauge job creation and to use contractor and its own data to evaluate projects.

Estimating USAID Impact from Macroeconomic Data (Section IV). It is appealing to relate USAID in-country expenditures to growth by means of a multiplier. This approach is not optimal. In transition economies with inelastic labor markets and high levels of imports, multiplier values will be low. For example, given reasonable assumptions about labor elasticity, import levels, etc., for Bulgaria, we estimate an average multiplier-mediated job-creating effect of USAID expenditures of only 500 jobs/year from 1995–2005.

The literature suggests a more fruitful approach: Given the finding of a positive relation between indices of (economic) liberalization and economic growth, any successful effort to accelerate liberalization will foster economic growth, including the creation of new jobs and, more importantly, the raising of incomes for existing jobs. By supporting economic liberalization and stabilization, USAID programs will have had an impact far greater than reflected by multiples of expenditure levels.

The impact of liberalization programs will have been greatest in the early phases of transition. As host economies liberalized, USAID's ability to benefit host countries through indirect institution building will encounter diminishing returns. At the same time, the positive impacts of direct assistance to economic entities (firms, business associations, etc.) will have increased. Our analysis confirms that USAID's strategy of beginning with institution-building efforts then shifting resources to direct assistance was correct.

Estimating USAID Impact with Field Studies (Section V). Macroeconomic data provide an inherently uncertain picture of the impact of USAID assistance. For direct assistance programs it is possible to generate a more nuanced picture by tracking employment patterns at the firm level. If the necessary data were not gathered during program implementation, it is still possible to construct retrospective estimates using survey data.

ASU surveyed 100 USAID beneficiaries in Bulgaria, Macedonia, and Kyrgyzstan, as well as a matched control group of 100 non-beneficiaries in each country, balancing across industries, time of participation in USAID programs, and geographical region. ASU analyzed the survey data with a model in which firm-level annual employment growth depended on:

- **Firm characteristics**: Age, location, business form, size, sector of activity, export intensity, etc.
- **Owner and employee characteristics:** Owners' education, nationality, and past experience in business and government, as well as workers' education and labor union participation
- **Economic environment,** including the growth of real GDP

- **Business and institutional environment,** as measured by firms' perceptions of barriers to growth from the regulatory, legal and business environment, and institutions in the country

Statistical analysis revealed that USAID assistance enabled Macedonian firms to boost employment by 10 to 20 percent a year more than firms that did not receive assistance. This effect held for at least two years after the receipt of assistance and perhaps for even longer. Since the successfully sampled Macedonian firms in our study together employed over 4,000 workers, USAID programs in these 90 firms alone created between 800 and 1600 jobs in a two year period. In Bulgaria, USAID-assisted firms grew 10 percent faster than their unassisted counterparts did.[1] Direct assistance to firms has a significant impact on job creation.

The survey also looked at systemic barriers to growth, which reduce the effectiveness of USAID interventions at improving labor markets. Firms identified lack of external finance and high taxes as major barriers to growth in all three countries. Fast-growing firms had difficulty obtaining business premises. In Macedonia, firms also reported gray market competition, legal disputes, and government regulation as major barriers to growth. Indirect assistance aimed at improving access to capital and reducing the tax burden for legally registered firms, then, could have a major positive effect on employment growth. We estimate that improvements in areas of the business environment cited as problematic would have large job-creating effects.

Microfinance. Finally, the study confirms the importance of microfinance institutions (MFIs) for economic growth in transition economies. As noted in Appendix F, the success of MFIs in Eastern Europe and Eurasia suggests the following conclusions and recommendations:

- The success of MFIs is evidenced by low loan repayment delinquency rates, a function of the flexibility that MFIs have in structuring loans.
- Given their rapid profitability, MFIs ought not to require ongoing infusions of capital.
- Financial regulatory regimes should permit MFIs to become registered as commercial banks.
- MFIs are significant engines of job creation, as evidenced by the significant number of micro-size, family enterprises that have moved beyond micro-lending to SME enterprises with the assistance provided through MFIs.

[1] The analysis did not identify significant effects in Kyrgyzstan, but is due to the low response of firms receiving aid and the fact that much of the aid was provided shortly before the survey was conducted, meaning that the effects of aid had not as yet made themselves felt. This, again, underscores the need to to provide for data collection *ex ante.*

KEY FINDINGS & RECOMMENDATIONS

JOB CREATION IN TRANSITION ECONOMIES

- An initial decline in the number of people employed in transition economies was desirable, given socialist-era over-employment.
- Long-term improvements in living standards occurred not through increases in the number of people employed, but through increases in quality of jobs and wages paid.
- USAID programs directed toward economic reform increased output and incomes by raising output and productivity.
- Firm-level survey data show that reducing environmental barriers to growth has a measurable effect on firms' ability to grow and to increase the number of jobs.

MEASURING JOB CREATION

- The number of new jobs created should not be the most important outcome of assistance projects.
- Counting jobs created severely underestimates the impact of USAID programs.
- A more appropriate measure of job creation should include criteria such as:
    - Pay and benefits
    - Duration of employment
    - Training value of employment
    - Transferability of skills from one position to other positions
    - Promotion opportunities of those positions
    - Extent to which persons in those positions are working up to their productive capacities
    - Extent to which employment provides transferable spillovers benefiting other workers or firms
    - Effect on the efficiency and flexibility of the labor market
- Objectives and measures of labor-market success should be allowed to vary across projects that provide different types.

REPORTING JOB CREATION

- Very few SEED or FSA programs include job-creation information in their publicly available reports. The few that do used *ad hoc* definitions and methodologies and are not easily compared.
- USAID needs to standardize methodologies that contractors can use to gauge job creation and to evaluate projects.
- USAID should develop a uniform but flexible conceptual framework for evaluating programs using broad criteria of labor market outcomes. This framework should take into account the criteria listed above. The framework should allow for different measurement protocols for different types of programs.
- USAID should select measurement criteria in advance of program implementation.

- USAID should consider all stakeholders as it chooses measurement protocols.
- USAID or its contractors should gather information on recipients as they enter programs. USAID should track recipients during and after programs.
- Storing data and maintaining access to it are prerequisites for any effort to evaluate the efficacy of completed USAID programs. USAID should store these data in perpetuity and make them available to researchers.

THE IMPORTANCE OF INDIRECT ASSISTANCE

- Economic theory strongly supports the conclusion that USAID programs that provide indirect assistance to firms by strengthening or creating market-supporting institutions have important effects on labor productivity and economic growth and thus on wages. With a broader conception of the objectives of benefits USAID programs beyond the number of "jobs" created, such programs appear to have a high benefit-to-cost ratio.

RESULTS OF JOB CREATION SURVEY

- Field surveys in Bulgaria find short-term acceleration of at least 10 percent per year in job creation at firms that received USAID assistance vs. firms that did not.
- In field surveys in Macedonia the trend was stronger (up to 20 percent per year more job creation) and of longer duration.
- We estimate that in two years 90 Macedonian firms having received USAID assistance created between 800 and 1,600 jobs they would not otherwise have created.
- Exact figures on USAID beneficiaries would make it possible to use these methods to generate quantitative estimates of total direct USAID impact on job creation.

JOB CREATION AND MICROFINANCE

- The success of MFIs is evidenced by low loan repayment delinquency rates, a function of the flexibility that MFIs have in structuring loans.
- Given their rapid profitability, MFIs ought not to require ongoing infusions of capital.
- Financial regulatory regimes should permit MFIs to become registered as commercial banks.
- MFIs are significant engines of job creation, as evidenced by the significant number of micro-size, family enterprises that have moved beyond micro-lending to SME enterprises with the assistance provided through MFIs.

I. OVERVIEW OF USAID STRATEGIES IN EASTERN EUROPE AND EURASIA

On the heels of the fall of communism in Eastern Europe, in 1989 Congress passed the Support for East European Democracy (SEED) Act (also known as Assistance for Eastern Europe and the Baltic States [AEEB]). Three years later, following the collapse of the Soviet Union, it passed the Freedom for Russia and the Emerging Eurasian Democracies and Open Markets (FREEDOM) Support Act (FSA). These two acts have provided the framework for U.S. government assistance to Eastern Europe and the states of the former Soviet Union.

Early SEED-funded programs assisted countries transitioning to democratic rule and market economies by supporting the development of civil society and by advancing privatization and economic restructuring. In the conflict-plagued regions of southeastern Europe, SEED programs also sought to reduce the threat that local and regional instability posed to the security of the United States and its allies. Finally, SEED programs sought to reduce the threat of transnational organized crime and HIV/AIDS.

"Economic theory strongly supports the correctness of the timing and objectives of USAID assistance to transition economies."

The FREEDOM Support Act had similar long-term objectives. It attempted to facilitate the transition toward democratic governance and free market economies. FSA programs supported both emerging civil society programs and democratic organizations, and market-based enterprises and institutions. FSA activities have included promoting private enterprise and free market systems, encouraging the U.S. private sector to participate in the states of the former Soviet Union, and supporting agriculture and the marketing of agricultural commodities.

USAID has been the primary vehicle for the administration of SEED and FSA funds in the region. From 1989 to 1999, of the $14 billion provided by SEED and FSA, 60 percent was administered through USAID. In the early days of SEED and FSA, USAID priorities in Eastern Europe and the countries of the former Soviet Union were dictated by the need for systemic economic, social, and political reform. During that time, the USAID Bureau of Europe and Eurasia economic growth programs focused on the following areas:

Privatization. During the 1990s, USAID helped transfer thousands of state-owned businesses, agricultural enterprises, and housing into private hands.

Economic Policy Reform. USAID supported new legal frameworks, better-functioning government ministries, new tax codes and budget systems, sound financial institutions, and professional associations. Within the initial decade, from 1989 to 1999, USAID programs helped eleven countries achieve full membership in the WTO.

Creation and Strengthening of New Enterprises. Enterprise Funds supported by USAID invested $900 million in sixteen countries, helping directly to preserve or create 150,000 jobs. USAID-funded programs provided training and advice in management, savings programs, marketing, strategic planning, finance, and many other areas, thus helping to create or save thousands of jobs across the region. One such USAID-supported NGO set up micro-loan institutions that created over 40,000 jobs in the region.

Energy and Environment. USAID improved energy efficiency through restructuring, commercialization, and privatization of the energy sector and the development of appropriate regulatory oversight for these new market-oriented systems.

Beginning in the mid-1990s, however, USAID's priorities in the region began to shift.[2] The emphasis switched from high-level systemic reform, institutional development, and privatization efforts to the development and expansion of the private sector, in particular of micro, small, and medium enterprises, and to the creation of a legal and regulatory environment conducive to the success of the private sector.

Typical of the new USAID focus was a two-pronged approach that featured SME development programs, small credit loans, and credit guarantees on the one hand, and continued efforts to effect legal and institutional reform on the other. Particular attention was paid to reforming the legal and regulatory infrastructure to strengthen the enforceability of contracts and guarantee property rights.

Although the complexity of restructuring institutions, economies, societies, and governance structures made the task of implementing sustainable change daunting, there have been some notable success stories, including countries that have graduated from USAID support and joined the EU, the WTO, and NATO.[3]

USAID continues to face developmental, structural, and regional challenges in southeastern Europe and Central Asia. Programs have been stymied by corruption, lack of transparency, and the absence of accountability in the transitional economies. At the same time, frustration with the pace of reforms and privatization has led to increased congressional scrutiny. USAID's targeted and flexible programming has been compromised by an increase in the number of congressional earmarks for support of programs that may or may not reflect USAID goals.

'INDIRECT' ASSISTANCE & EMPLOYMENT

Economic theory suggests that infrastructure programs, programs designed to strengthen the rule of law, to create regulatory frameworks and institutions to protect property rights, to develop private enterprise, and to improve the functioning of financial markets, have far-reaching impacts on labor markets in transitioning economies.

These programs do not boost the overall number of jobs, but lead to higher incomes and a shift toward "better" jobs.

In addition to these external challenges to USAID economic development efforts, the internal direction and scope of USAID country mission activities are challenging. The sheer size of many programs has led to increased managerial complexity. Over the 15-plus years in most of the transition economies, USAID economic development funds shifted from central government privatization activities to more complicated support programs for local self-government, NGO and civil society development, and SME development.

A further complication comes from the extensive involvement of other international aid organizations in the region. To avoid working at cross-purposes or duplicating effort, USAID expends considerable energy coordinating and often leading the coordination of the common efforts of a large number of agencies and organizations assisting with development programs.

The geographic scope of USAID activities in the region has evolved, and this too has led to increased complexity: The northern tier of East-Central European countries—Poland, the Czech Republic, Slovakia, Hungary, and Slovenia—have graduated from SEED support, reflecting successful economic restructuring and democratic institution building. Bulgaria is slated to join them this year (2007), and so will Russia. As successful countries graduate, USAID finds itself concentrating on increasingly intractable problems in increasingly difficult regions, e.g., the western Balkans and Central Asia.

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[2] USAID, "Work, Economic Growth, and Trade: Economic Policy," Website location: http://www.usaid.gov/our_work/economic_growth_and_trade/eg/econ_pol.html, accessed on February 23, 2007.
[3] As noted also below, these "graduated" countries included Poland, the Czech Republic, Slovakia, Hungary, and Slovenia.

As USAID's priorities, methods, and geographic reach have evolved, so too have the extent and the nature of its impact on labor markets. To understand the changes and to appreciate the challenges facing USAID in attempting to measure these impacts, we begin by discussing the nature of job creation and the measurement of employment in general (Section II). We then review the scholarly literature for insights as to how USAID assistance may have played out in the labor markets of the countries of Eastern Europe and the former Soviet Union (Section III). We apply these insights in Section IV to generate macroeconomic estimates of USAID impact on labor markets, then, in Section V, present findings from a retrospective, multi-country survey, and make quantitative estimates of the impact of USAID assistance in those countries.

II. CONCEPTUALIZING JOB CREATION AND MEASURING EMPLOYMENT

Defining Job Creation and Employment.

WHAT IS A JOB?

- **A set of duties or skills; a job description.**
- **Not comparable across firms**
- **Not the measure reported in surveys of labor markets (Employment is.)**

Job creation is a popular concept because it suggests an easy way to measure the impact of assistance to transition economies. Moreover, the large structural changes caused by the transition have seemingly had a major impact on unemployment in transition economies, making job creation a natural focus of policy concerns. However, the concept of "jobs" is not nearly as concrete as it seems, and, considered only in its simplest interpretation as the number of people who have a job, it may not be the most important objective of USAID's assistance programs in transition economies. In this section we discuss the theoretical and practical considerations involved in attempts to use job creation as a benchmark for evaluating economic assistance, propose a broader set of labor market outcomes as a more appropriate objective of USAID policy, and suggest ways in which USAID can better measure and evaluate the effectiveness of its programs.

Jobs are not easily or cleanly defined for measurement purposes. To a firm, a job is a set of duties requiring a certain skill set. Unions and workers share this view, but argue that the set of duties and skills for a given job should be narrower than the definition favored by employers. The definition chosen will affect our measure of "job creation." With narrower job definitions, we will have more "jobs," albeit at the price of decreased efficiency. For these reasons, national firm-level surveys are not based on job counts but on the number of employees at a firm and on their earnings as well as other characteristics of their job.

What is Employment? Since "employment," not jobs, is the concept defined, surveyed, and reported in virtually all nations, it is important to understand what is meant by the term. To clarify the difficult conceptual issues involved in describing and measuring "jobs," we consider several definitions used in the United States and in most other countries. The U.S. Current Employment Statistics survey defines employment as the total number of persons on establishment payrolls employed full- or part-time who received pay for any part of the pay period that includes the 12th day of the month. Persons on the payroll of more than one establishment are counted in each establishment. Data exclude proprietors, self-employed, unpaid family or volunteer workers, farm workers, and domestic workers.[4] The Current Population Survey declares a person employed if he or she did any work (including part-time or temporary) for pay or profit during the survey week. The 2000 Census calls "employed" all civilians 16 years old and over who were either: (1) "at work"-- those who did any work at all during the reference week as paid employees, worked in their own businesses or professions, worked on their own farms, or worked 15 hours or more as unpaid workers on family farms or in family businesses; or (2) were "with a job but not at work."[5] Several aspects of these definitions bear particular mention.

Hours of Employment. All three definitions of employment include any person who did ***any work for pay*** during the survey period. A single hour of work qualifies as employment in these snapshots of employment.

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[4] http://www.bls.gov/ces

[5] This category includes those who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons.

Full-Time vs. Part-Time. There is no distinction between full-time and part-time employment in the gross numbers normally obtained and published.

Duration of Employment. There is no specification for the length of time a job must last in order to meet the definition of employment in these snapshot surveys. A person holding a job created at noon and destroyed at 1 p.m. qualifies as employed, and there is no distinction between temporary and permanent jobs.

Earnings and Skill Level. The employment definitions include no threshold for minimum pay, and do not require that the employee not be "underemployed" in the position. No adjustment is made to reflect that a brain surgeon who is employed as a janitor probably is underemployed, relative to her training, education, and experience.[6]

WHO COUNTS AS 'EMPLOYED' IN THE U.S.?

Current Employment Statistics:

Any person on payroll paid any amount in pay-period including 12th day of month.

Current Population Survey:

Any person who did any work at all for pay or profit during the survey week.

2000 Census:

Civilians […] who did any work at all during the reference week as paid employees, worked in their own business or profession, worked on their own farm, or worked 15 hours or more as unpaid workers on a family farm or in a family business; or were "with a job but not at work."

Employment Creation as a Benchmark.

The foregoing discussion shows that there are important aspects of labor market performance that are missed by simply counting jobs. The reason people work is to earn incomes now and in the future. Thus, the qualitative aspects of the jobs created are as important, if not more important, than the number of jobs created. Wages, hours worked, the contribution that a job makes to improving a worker's labor market options, opportunities for promotion, fringe benefits are all as important measures of labor market performance as is the number of jobs in existence. If issues such as:

- the disappearance of "good" manufacturing jobs "off-shore" and their replacement by less attractive jobs "flipping burgers"
- the increasing reluctance of employers to provide health benefits to employees
- the stagnation of middle-income families' incomes

are all an important part of current economic policy discussions in the United States, then the quality of jobs is likely to be even more salient an issue in transition economies, where the nature of jobs has been subject to greater changes as the result of accelerated opening to globalization, dramatic structural change, and the move from all-pervasive employment by state-owned firms to the much more varied employment conditions found in a market economy.

[6] Because of the difficulty of developing an objective set of criteria that could be readily used in a monthly household survey, no official government statistics are available on the total number of persons who might be viewed as underemployed in the U.S. Even if many or most could be identified, it would still be difficult to quantify the loss to the economy of such underemployment (http://www.bls.gov/cps).

The foregoing arguments for viewing and evaluating USAID programs in a broader context are strongly supported by economic theory. When we view labor market outcomes in this broader economic perspective, economic theory also supports the correctness of the timing and objectives of USAID assistance to transition economies described in Section I of this report. A number of influential studies (Prescott, 1998; Hall and Jones, 1999) point to the fact that there are very large differences among countries in their output per worker and thus in *per capita* incomes and that these differences are only in small part due to differences in countries' endowments of physical capital or to differences in their stocks of human capital, meaning education and experience of the labor force. Rather, these large differences in output per worker are due to cross-country differences in total factor productivity (TFP), which is the amount of output that a given bundle of resources (labor, capital, education and skill, natural resources, etc.) can produce. For example, Hall and Jones note that in 1988 a U.S. worker produced over 35 times as much output as did a worker in Niger. Moreover, Hall and Jones examined the sources of

TOTAL FACTOR PRODUCTIVITY & GROWTH

TFP: ***The amount of output a given bundle of resources (labor, capital, education and skill, natural resources) can produce***

- **Cross-country differences in *per capita* income are due largely to differences in TFP.**
- **Changes in TFP drive changes in incomes and living standards.**
- **Quality of institutions is an important determinant of TFP.**
- **USAID programs that improve institutions and raise TFP will have a powerful positive impact on living standards, even if the number of jobs changes very little or even declines.**

> the 35-fold difference in output per worker between the United States and Niger. Different capital intensities in the two countries contributed a factor of 1.5 to the income differences, while different levels of educational attainment contributed a factor of 3.1. The remaining difference— *a factor of 7.7*—remains as the productivity residual.[7] (Hall and Jones, 1999, p. 83, emphasis added)

The implication is that output per worker and the *per capita* income of a country is much more the result of its TFP than of its accumulated physical capital and the education and training of its workers and that changes in TFP are the key drivers of changes in incomes and living standards. Thus, USAID programs designed to raise the total factor productivity in transition economies would have a powerful positive impact on living standards even if the number of jobs were to change very little or even decline.

While the fact that cross-country differences in TFP are the key to understanding cross-country differences in living standards is widely accepted by economists, the causes of such large differences in total factor productivity are less well understood. Nevertheless, there is an emerging consensus that cross-country differences in institutions have a powerful influence on cross-country differences in TFP. By institutions we mean the economic, legal, and social arrangements for managing economic activities. This includes the types of laws a country has and how effectively they are enforced (Hall and Jones, 1999), the existence of well-functioning capital markets (King and Levine, 1993), and institutions that promote the globalization of the economy (Dollar, 1992, Frankel and Romer, 1999). Economic theory clearly points to the fact that early USAID programs in transition economies that had as their objective the acceleration and strengthening of the rule of law, creating regulatory frameworks and institutions such as courts,

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[7] By "the productivity differential," Hall and Jones mean the difference in output that would be produced by *identical* workers using the same inputs and technologies in the US and Senegal. Prescott uses a somewhat different line of reasoning to show that the human and physical capital differences between poor and rich countries cannot explain observed cross-country income differences but arrives at the identical conclusion that differences in TFP are the main cause of differences in per capita incomes.

cadastres, etc., to protect property rights, developing private enterprise and encouraging the creation of functioning financial markets should have had important and far-reaching impacts on labor market outcomes that would have been evident much more in improved incomes and in "better" jobs than in the number of jobs created. Both improvements in output per worker and thus in living standards as well as any improvements in employment due to the increased competitiveness of firms would have economy-wide effects that, for the purposes of this report, we call indirect effects since the programs did not seek to provide directly any additional resources to a particular group of workers or firms but rather to improve the business, social, and economic environment in which all firms functioned. Such improvements, as we document in the following sections, had measurable impacts on economic growth and thus on workers' incomes and on the number and quality of jobs.

As noted in the previous section, USAID programs then shifted to more direct assistance aimed at firms, and especially at small and medium-sized enterprises (SMEs). Such assistance is likely to be effective only once some progress has been made toward creating the institutions that underpin a market economy by means of the institution-building programs that formed the core of USAID's early programs, a conclusion that we support by reference to econometric studies relating reform progress and aggregate economic growth in transition countries (see Sections III and IV). Nevertheless, even in economies, such as that of the United States, with well-developed institutions and markets, there are institutional shortcomings and market failures that are rectified by various forms of assistance to targeted categories of firms. For example, we recognize the difficulties that SMEs (including family farms) in the United States face in obtaining capital, bidding for government contracts and mastering new technology. Thus in the United States programs have been established to assist such firms in borrowing money through the Small Business Administration, to help small firms to obtain government contracts though preferences and to help farmers master new technology through agricultural extension programs, to cite only a few examples. Such programs, which have clear counterparts in more recent USAID programs in transition economies, provide program resources to specific firms with the objective of improving their access to the resources and technology that they need for further growth. Thus any jobs created or higher incomes generated by such programs should be evident in the first instance at the firms that are the beneficiaries of such programs and we thus call this direct job creation. Such direct job creation has a quantitative dimension, as firms with better access to resources may employ more workers and also a qualitative one in that the types of jobs created may be better in terms of wages, fringe benefits, training spillovers, etc.[8]

A GENERAL NOTE ON DATA COLLECTION

Data-gathering about recipients should be an integral component of every USAID program.

Recipients should be tracked for a significant period following their participation in USAID programs.

Program tracking archives should be accessible–with appropriate safeguards–to researchers. Allowing access to these data will lead at no marginal cost to academic studies, which will lead to a better understanding of program effectiveness and ultimately to a better utilization of USG funds.

When and How Should the Effects of Assistance Be Measured?

Despite the limitations of using employment or job creation as a success measure, the concept is popular in policy circles. Nevertheless, there is probably no single ideal measure of employment creation. Different types of assistance have different impacts, which, in turn, are best reflected by different

[8] Consider, for example, a technical assistance program that helps small firms incorporate computers into their operations. The number of clerks and bookkeepers working in such establishments may fall, but the jobs of IT professionals who replace them are likely to be of higher "quality" along several dimensions including wages, promotability, etc. and the change will also improve the competitiveness of the targeted firms, thus creating jobs in other parts of the firm.

measures of success. (Appendix B discusses these problems at greater length.) Moreover, the use of any definition of "job creation" as a universal criterion for program success will have unintended consequences, since implementers and participants will have an interest in ensuring the best possible outcome on the given definition.[9] For example, the surest solution for assistance program managers and client firms incentivized to maximize "number of jobs added" is to create a large number of positions involving part-time employment with each additional worker counting as "one job." These employers produce good "job creation" figures, but not necessarily a desirable economic impact. In short, any simple evaluation rule will create incentives to game the system, with unintended–and not always desirable–consequences.[10] To minimize these dangers, evaluation measures must be more sophisticated and need to be tailored to individual programs or types of programs.

What considerations are important in choosing measures of improving the situation actual and potential labor force participants?

- Number of positions
- Hours worked by the persons in those positions
- Pay and benefits of those positions
- Duration of those positions
- Training value of those positions
- Transferability of skills from one position to other positions—where the most general training involves skills valuable to all firms and the most specific training involves skills of value only in the training firm; most training involves a mix of these two extremes
- Promotion opportunities of those positions
- Extent to which persons in those positions are working up to their productive capacities
- Extent to which employment provides transferable spillovers benefiting other workers or firms

Measuring the impact of USAID assistance must be tailored to the type of assistance being provided. In the case of direct assistance, by which we mean assistance directed at individual firms or groups of firms or government units with the intention of improving their functioning or access to resources in a way that will enhance their ability to increase the number of workers they employ or the quality of jobs that they

[9] Reporting bias is a potential problem in any study, but it seems that it may be especially important in evaluating assistance programs for transition economies. The affected economic agents presumably are adept at erroneous reporting because of their experiences in centrally planned economies, where bad news often resulted in sanctions. Thus, there presumably is a sense in these economies that a program intended to, for example, create jobs or employment should end up with reported success. Absent an intensive, independent, and expensive audit of reported results, it seems doubtful that the extent of any reporting bias can be determined with any degree of reliability, and perhaps the bias could not be determined by independent outsiders in any case. Consequently, the only practical approach to reporting bias is to assume that it likely inflates favorable results and deflates unfavorable results to an unknown extent. The implication is that reported results overstate actual outcomes but to an unknown extent. The only obvious “solution” is to adjust results qualitatively based on information from informed observers.

[10] A possibly apocryphal example for a Soviet nail factory manager illustrates the point. The central planner assigned a weight measure to evaluate plant output, with the result that the plant produced railroad spikes. The planner changed the goal to the number of nails and the plant manager responded by producing pin-sized nails.

offer, the effectiveness of programs will have to be measured at the level of the firm or government unit.[11] A clear demonstration of the effectiveness of such firm-level programs will be facilitated if information on similar firms that do not receive such assistance is also available. In the case of indirect assistance — by which we mean USAID programs that seek to promote better labor market outcomes by improving the economic, legal and social conditions — outcome measures will have to be more macroeconomic or indirect, and researchers will have to create links between these broad measures and concrete labor market outcomes.

Evaluation metrics should be developed prior to the implementation of the assistance program. In order to develop a clear understanding of the goals and objectives of the assistance program, all parties involved should participate in the development of these measures. Sponsoring agencies, implementers, government agencies, firms, workers or potential workers, and evaluators all have different perspectives and expertise. Involving all parties at the outset makes it much more likely that a program will be successful or, in the worst case, that a failed program can be identified by clearly understood criteria.

HOW TO MEASURE EMPLOYMENT

USAID should develop a uniform conceptual framework for program evaluation, keeping in mind that:

- **Universal definitions of "job creation" create incentives to "work toward the definition," with unintended and possibly undesirable consequences.**
- **Different types of program will require different evaluation measures.**
- **Evaluation measures should be the same for all programs of a given type.**
- **Reporting and evaluation criteria should be simple and easy to obtain.**

Data should be gathered throughout the life of a program and after program termination as well. In many cases it will be appropriate to gather baseline data before or as the program begins and follow-up data for a period of time (which may last several years) after the program is completed. As the program progresses its evaluation measures should be monitored and, if necessary, refined.

Some programs that have strong initial results may not stay in the race for the long term. In contrast, some projects that may have small effects in the short term—such as investments in human capital via training and education—may have major impacts in the long term. Infrastructure and other major institutional reforms probably also fit in the category of small initial but larger long-term effects. Project effects decay through time, but it still is important to develop some sense of how long the effects last. Macro, industry, and firm shocks are inevitable. Such shocks obviously can overwhelm project effects. This fact makes it essential to have a statistically valid control group of non-project firms because it is a huge stretch to attempt to implement econometric controls for such factors without a control group. If the interest is on short- vs. long-term effects with respect to employment effects, all external shocks are relevant in addition to more specific labor market issues, such as:

a) Labor turnover varies drastically among different types of workers and firms. From a firm perspective, the "long term" for employees is based on their turnover distribution and their employment costs (which take time to recoup). Thus, the long term for a firm might be longer than the duration of the median employee, for example. This value will vary substantially among industries and types of firms, e.g., employers in seasonal industries and construction usually have high employee turnover rates.

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[11] Direct assistance may also be directed toward workers to improve their skills, mobility and access to information about available jobs or it may be directed toward potential entrepreneurs. Similar methodological considerations apply in these cases.

b) From a worker perspective, the long term depends more on the career opportunities provided by employment. Workers also have investment costs to recoup, depending on how much of their firm-specific training they paid for through lower pay. Recouping those investment costs and obtaining transferable skills for other firms probably affects worker thinking about the long term, e.g., a student internship at low pay can provide important training that pays off in a better full-time position and career once the student enters the labor force as a full-time worker. Apart from recouping any investment costs, time with the firm usually has transferable value once a worker is employed for a minimum period. Although that period varies depending on the worker's occupation and prior experience, a period of only six months usually would have little career value and sometimes could cause career harm by characterizing the worker as a "job hopper." In contrast, one to two years of employment usually would provide some significant career value, again varying by occupation.

WHEN TO MEASURE EMPLOYMENT

If labor market outcomes are to be an evaluation measure, employment must be tracked before, during, and after program implementation.

Attempts to evaluate employment impacts after the fact are costly, time-consuming, and relatively less informative.

Ex post measures should be avoided. Failing to identify and track success measures at the front end of a program means that a salvage job has to be performed at the back end, when it is much more difficult to obtain information. As discussed above, more than one aspect of employment could be important, including earnings, duration and training aspects. *Ex post* attempts to salvage data on program success or failure are rarely able to obtain the necessary data and must rely instead on less informative employment counts or estimates. Furthermore, although survey data are inherently subject to reporting errors, the longer the gap between program implementation and survey data gathering, the greater magnitude of potential errors.[12]

This does not mean that *ex post* efforts are pointless. Even studies (like the one described in this report) gathering data a decade or more after the completion of a program can provide useful insights. The results of such studies, however, are associated with greater uncertainty and a greater risk of bias, and come at significantly higher cost than would have been the case had appropriate data gathering procedures been mandated prior to program initiation[13].

Ex post investigations present analytical challenges as well. The major issue in trying to ascertain program impacts with *ex post* data is that program effects are like a mouse, compared to the elephant of the overall economy. Obviously, absent a massive injection of technology, capital, or expertise, the main drivers of firm and worker experiences in any economy will be national and local economic conditions. National and local trends can swamp program effects in statistical analyses because the latter are so hard to separate from changes in the overall economy. For example, in an economy where jobs are, on net, being destroyed, a successful assistance program might produce no new net employment but merely a less severe loss of jobs. Without detailed program data, however, it might be difficult to observe this positive effect. In contrast, a program that in reality had no impact might appear to generate employment if it is lucky enough to have been implemented in an expanding economy or sector.

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[12] For this reason, all of the U.S. employment data gathered in official surveys is for the week or month of the survey or the week or month just completed at the time of the survey.

[13] The retrospective nature of data-gathering surveys leads to an inherent bias. A survey that is taken years after the program ends will, of necessity, contact only firms who have been successful enough to survive until the data of the survey. Firms that failed after receiving assistance are impossible or very expensive to locate. As a result, estimates of the program effectiveness are biased upward. Investigators can compensate to some extent by using a matched sample of firms that did not receive assistance, but it is impossible to compensate for survival bias entirely.

A common way to deal with the mouse and the elephant problem is to include econometric controls accounting for the effect of macroeconomic forces. For example, the growth of GNP or GDP can be taken as a baseline against which to judge the effects of a program on employment.[14] Firm size, region, industry, and other measurable factors likely to affect program effectiveness should also be used as control variables.

[14] Of course, in transition economies the overall growth of an economy also depends importantly on whether the gray economy is growing or shrinking. Unemployment or employment rates may indicate whether formal-sector labor markets are tight or loose, but the overall effect again depends importantly on how the gray economy factors into the picture and whether the gray economy is growing or shrinking. In any case, it is important to control for the size and growth of the overall economy in evaluating any program specific impacts.

III. FINDINGS FROM THE LITERATURE

There is an extensive literature on the transition experience and particularly on the effects of the transition on employment and the labor market. We surveyed this literature to determine whether academic experts have reached any consensus on labor market developments and whether their conclusions can inform the analysis of USAID's programs in the region. In this section of the report we summarize the main findings and draw some key lessons for USAID programs. The full survey is attached to this report as Appendix A.

TRANSITION ECONOMIES: JOBS & PROSPERITY

Given socialist-era overemployment, some loss of jobs was expected and desirable.

Shedding of low-wage, low-productivity jobs leads to higher productivity and ultimately to increased prosperity.

Countries that cushioned labor markets from economic reform have lower productivity and *per capita* income.

Macroeconomic Performance and the Labor Market.

We began the survey by examining macroeconomic developments in transition economies and their relationship to labor market outcomes. There is a general agreement that the number of jobs has fallen in all transition economies. However, most experts believe that counting jobs gives a biased interpretation of labor market developments in transition economies and thus may yield misleading conclusions about the policies needed to deal with labor markets in transition.

- While it is true that the number of jobs has fallen in most transition economies, this result is both to be expected and in some cases desirable. It is to be expected because, under communism, there was excessive employment due to "taut (or over-full-employment) planning" because of an ideology that stressed a worker's "right" to a job as well as the social obligation of all citizens to work. The shedding of low-wage and low-productivity jobs in the course of transition can be seen as a desirable development leading to higher productivity and competitiveness and growing prosperity.

- In the more successful transition economies, economic growth and rising incomes have not been brought about by rising levels of employment but rather by improvements in the quality of jobs. In many of the more successful countries, jobs have been permanently lost. At the same time, workers' incomes have increased dramatically due to the rapid rise in real wages. This finding further emphasizes the point made in the previous section that counting jobs created is not the best way to measure the impact of USAID programs and that the quality of jobs created is equally if not more important. It also relates to the important effect of indirect assistance in creating appropriate institutions that raise TFP and thus wages.

- Less successful countries adopted policies to cushion the labor market from the effects of the transition, but at the cost of retaining low-wage low-productivity jobs and delays in introducing market-oriented reforms that would serve as the basis for further growth.

- The measurement of employment and unemployment in many transition economies is fraught with error. Registered unemployment is subject to serious upward or downward bias; survey-based estimates are expensive to obtain and cannot be updated frequently; and the connection between employed status and access to housing or social benefits creates strong incentives for people to register as unemployed or to remain employed even if they receive no wages. Many transition economies have a very large "shadow" or "gray" economy where employers do not register their firms and neither their output nor the employment and wages they generate are recorded in official statistics. Such firms not only distort official measures of output, income and employment, but they

also serve as a barrier to the growth of the legal economy.

The economic recovery that has taken place in many transition economies has not led to an increase in the number of jobs, leading some observers to call this a "jobless recovery." Such a characterization may be misleading.

The terms "transition recession" and "jobless recovery" suggest that labor market development should be considered in the context of a traditional business cycle that occurs in market economies. This is misleading both because the fall in employment was only partially due to the same macroeconomic forces that trigger a recession in market economy and the recovery in output was not due solely to a recovery in aggregate demand, as is the case in a recovery from recession. Rather, both the transition recession and the transition recovery involved complex interactions between changes in the economic system (including laws, institutions, governance, etc.), structural changes in the economy, and shocks to supply and demand.

EMPLOYMENT LEVELS & OFFICIAL DATA

Some transitioning countries provide incentives to register as 'unemployed' (e.g. health insurance), others provide disincentives (e.g. employment-based housing). Most transitioning countries have large 'gray' economies not captured by official statistics.

Official employment statistics in these countries are inherently unreliable.

The foregoing conclusions, as well as research on the link between institutional improvements and economic growth in transition economies reviewed in the survey, imply that USAID programs designed to improve the functioning of markets, to build market-supporting institutions, to strengthen the rule of law and administration of justice, and to assist the privatization of state-owned firms have had important labor market effects. Because there was only a weak link between output growth and employment, these effects have been seen mainly in the improved quality of jobs and in the rising productivity and wages of the labor force.

Microeconomic Performance and Structural Change.

It is commonly believed that privatization, while improving the efficiency of firms, leads to job loss because the new owners will be less "paternalistic" than was the state, and will seek higher profits by reducing labor costs, usually by laying off workers. The evidence from the transition economies suggests that this need not be the case. A number of studies show that employment at firms privatized to give "outsiders" — especially foreign investors — control often leads to employment gains. In part this is due to the fact that increased efficiency, which may be accompanied by initial net job loss or by the loss of some jobs and increase in others, increases the firm's efficiency and thus its growth in the longer term. A failure to privatize, or privatization that turns the firm over to "insiders," — meaning managers and workers — tends to lead to eventual job loss, in large part due to the firm's inability to compete, generate profits and grow. Thus programs directed at effective and widespread privatization should have a significant positive effect on labor market outcomes, as should programs such as those promoting rule of law, protection of property, etc., that make transition countries attractive to foreign investors.

A second factor affecting employment is structural change. The communist economies tended to have excessively large numbers of workers in agriculture and manufacturing, while services were neglected. With the fall of communism and the opening of these countries to the forces of market demand and international trade, there has been a significant shift in employment from agriculture and industry to services. Countries that have been able to accommodate this shift have also done better in terms of labor incomes. At the same time, the geographic shifts in where employment opportunities exist has created pockets of unemployment and poverty for individuals whose labor mobility was limited due a lack of appropriate skills or to social, cultural, and economic factors such as the shortage of housing in areas where new jobs were being created. Programs that promote training and worker mobility and the

dissemination of information about job opportunities play an important role in reducing such pockets of high unemployment.

Linked to structural change is the emergence of small and medium-sized firms, which generally did not exist under communism. Spurred in part by privatization and in part by the sectoral shift in employment and output to the service sector, where small firms may be easier to start, the SME sector has been an important source of job creation in transition economies. Close studies of SMEs in transition countries, however, suggest that it is the formation of SMEs rather than their subsequent growth that accounts for the bulk of their effect on employment. As a result, the greater share of job creation in existing firms occurs in larger firms, a conclusion that is reflected in our own findings that, in our sample of firms, larger firms tended to grow faster than small ones.

PROGRAMS THAT CREATE JOBS

Privatization programs that give control to "outsiders" – especially to foreign investors

Job training, worker mobility, and job brokering programs in areas of high unemployment

Programs supporting the formation of new SMEs (but not the expansion of existing SMEs)

Programs supporting the expansion of large firms

Implications for Job Creation in Transition Economies.

A number of conclusions follow from this analysis of labor market developments in transition economies. Perhaps the most striking is the heterogeneity of the experiences across countries. The Central European and Baltic countries, many of which are now members of the EU, while experiencing significant unemployment at the onset of transition, have made great strides in creating viable market economies and thus have by now established functioning labor markets. Thus, USAID programs to create market-supporting institutions (what we call indirect assistance) were to a great extent successful and effective in these countries, although for reasons noted above. This success was more evident in the quality of jobs created rather than in a growing number of jobs. While unemployment rates in these countries may still be high in comparison to older EU members, this difference is largely due to a mismatch between skills and job openings, the effects of a higher real wage on the availability of low-skill jobs, and non-labor-market factors such as social and cultural barriers to regional mobility. While these factors do deserve policy attention, there is also the expectation that they are self-correcting in the intermediate term.

In much of the Balkans and in the former CIS countries, the situation is different. Economic recovery is much less dynamic, many low-paying and in the long run unviable jobs continue to exist, and the business climate has improved much less than in the Central European and Baltic countries. Unemployment and underemployment continue to be major problems. Job creation and increased labor incomes are most likely to come from improvements in the business environment through assistance in the creation of market-supporting institutions, in the strengthening of the rule of law, especially in commercial relations, and in the reduction of corruption.

CREATING JOBS IN THE BALKANS & CIS

Job creation and increased incomes are most likely to come from improvements in the business environment. Assistance programs should focus on:

- **creating market-supporting institutions**
- **strengthening the rule of law, especially in commercial relations**
- **reducing corruption**

A second conclusion that we can draw from the survey is that the number of jobs created by USAID programs is likely to be underestimated by looking at the aggregate data. This is because the general trend

in the region has been toward reducing the number of people working from the unnaturally high levels of the communist era. Thus, policy interventions should not be measured by the growth in the number of jobs (a point already made on more theoretical grounds earlier in this report), but by improvements in labor market flexibility, both geographically and across sectors, and by growing incomes that replace low-wage and low-skill jobs by better paying jobs demanding higher skills.

IV. ESTIMATING EMPLOYMENT CREATION FROM MACROECONOMIC DATA

The Keynesian Multiplier.

One intuitively appealing approach to measuring the effect of USAID assistance on job creation or labor income creation in a country would be to attempt to relate the dollar value of USAID assistance to the growth of aggregate employment or the wage bill in the recipient country. Such an approach is difficult and subject to error because it requires accounting for the effects of the many other forces that influence employment, including transition to a market economy, opening up to international trade and investment, privatization of firms, etc. Moreover, to the extent that different USAID programs overlap in time, determining their relative effectiveness would be impossible. This is the mouse and elephant problem mentioned in Section II.

MEASURING JOBS IN THE BALKANS & CIS

Aggregate data in the Balkans and CIS countries will almost certainly underestimate job creation.

Program success in these countries should not be measured by job count, but by:

- **improved labor flexibility**
- **growing incomes**
- **replacement of low-wage and low-skill jobs by better paying jobs demanding higher skills**

Nevertheless, macro-level analyses can provide some measure of perspective on what kinds of aggregate employment effects could reasonably be expected from USAID projects based on the amount of money spent in a country by applying the so-called Keynesian multiplier, which tries to capture the cumulative effect of USAID spending as it generates income for individuals in the economy who receive or work for these funds, and as they spend that income, creating income and expenditures among other individuals. The concept of the multiplier and our methodology for applying it is set out in detail in Appendix C. As explained in Appendix C, we assumed a Keynesian multiplier of 1 and an employment-output elasticity of 0.5 for our calculations for Bulgaria.

The number of jobs created by spending equal to USAID program expenditures in Bulgaria is shown below. We do not report similar exercises for the other two countries as the results for Bulgaria make the results of the macroeconomic analysis sufficiently clear. These numbers should be approached with considerable care, based as they are upon untested assumptions about the values for the income multiplier, employment elasticity, and the actual level of UASID in-country expenditures.

Table 1–Est. Multiplier-Mediated Job Creation, Bulgaria

YEAR	GDP (current PPP $)	EMPLOYMENT	USAID BUDGET (current $)	JOBS CREATED
1996	43,349,310,000	3,286,000	$36,709,000	696
1997	41,370,210,000	3,157,000	$27,865,000	532
1998	43,006,750,000	3,153,000	$34,000,000	623
1999	44,224,810,000	3,088,000	$33,675,000	588
2000	48,189,920,000	2,980,000	$30,150,000	466
2001	51,223,310,000	2,968,000	$32,197,000	466
2002	54,336,710,000	2,979,000	$35,123,000	481
2003	58,716,970,000	3,166,000	$33,993,000	458
2004	62,690,110,000	3,226,000	$27,944,000	359
2005	68,073,800,000	3,276,000	$27,569,000	332
			AVG	**500**

The results are striking in that in this macroeconomic framework only a small number of jobs is created each year. Simply put, if the only effect of USAID expenditures in Bulgaria, or any other recipient country, was to increase recipients' incomes, then the job-creating effect would be quite small, about 500 jobs per year. If we are to look for the effectiveness of USAID programs in creating jobs, we will not find it by looking at the amount of money spent in each country. Rather, the effectiveness will have to be found in the design of and effective implementation of USAID programs that assist firms in growing and becoming more competitive and that create the necessary institutions, business climate, government competency and social structures that allow businesses to thrive and to create jobs.

The multiplier is not without value, though. It provides a baseline against which the efficacy of USAID programs can be measured. The amount by which the jobs that we can show were created by USAID programs exceeds the numbers derived from the macroeconomic multiplier analysis offers a measure of value added by the design and implementation of effective USAID programs in the recipient countries.

Growth through Institution Building.

In Section II we mentioned a number of studies of total factor productivity that show that institutional development, either in the form of market supporting, financial or foreign trade promoting institutions, results in higher productivity and thus higher incomes. Moreover, research on both transition and non-transition economies shows that institution building can promote faster growth. In the literature survey presented in Appendix A and summarized in Section III, we noted a number of studies that showed a positive relationship between liberalization, pro-market reforms, and institutional development in transition economies and their growth of aggregate output. To the extent that these are valid, they suggest another way of evaluating the job-market effects of USAID programs from a macroeconomic perspective.

DeMelo et al. (1996) constructed an index of liberalization that ranged from 0, meaning a totally planned economy to 1, meaning a “perfect” market economy and they rated each transition economy on this scale. They also cumulated the index for a number of years in the early 1990s, yielding a cumulative liberalization index (CLI). The CLIs ranged from near 4, meaning that these countries had made considerable progress toward creating a market economy, to less than 1, meaning that many legacies of the former command economy still remained and market institutions were weak or nonexistent. Regressions of countries’ economic growth on their CLI and other explanatory variables undertaken by various researchers cited in Appendix A yielded a positive relationship between growth and CLI. For the

period from the start of transition to about 1995, the coefficient for CLI ranged from 2.6 to 3.5, meaning that an increase in a country's CLI from, say 2 to 3 would have raised its annual GDP growth by that 2.6-3.5 percentage points over the period analyzed. Such higher growth would have resulted in some job creation, although, as we have stressed in this report, the elasticity of employment with respect to GDP growth was very low in the course of transition. More important, such accelerated growth would have caused workers' incomes to grow by about the same percentage, and given the magnitude of the "growth effect" and the fact that it had a positive impact on growth over a number of years, what we have called indirect USAID programs for job creation would have had a very important effect on incomes if they in fact contributed to the creation of market-supporting institutions. We do not undertake any estimates of the employment and income effect of such growth due to increased "liberalization" because there is no practical way to link the effects of USAID programs that were designed to promote privatization, liberalization, etc. to the measured changes in the CLI index, although such linkages likely do exist. Rather we stress that if USAID programs did have a large impact on liberalization, then the labor market effects of such programs would be potentially large because liberalization did have a significant effect on overall economic growth.

INDIRECT ASSISTANCE & JOB CREATION

CLI: Cumulative Liberalization Index; a measure of transition from totally planned to prefect market economy.

Higher CLI (more liberalization) correlates with increased economic growth.

To the extent that USAID programs fostered economic liberalization, they will have had large, but hard-to-quantify effects of job creation.

These results also yield some insights regarding the relative effectiveness of indirect and direct assistance through USAID programs. Indirect programs aimed at creating market economy likely had their biggest impact early in the transition, when the CLI was low. The benefits of such programs appear to decrease over time and with increasing CLI. Thus, direct assistance programs became more effective as the CLI increased. Evidence for this claim comes from the studies generating estimates of the impact of the CLI on aggregate growth over the early years of the transition. In many cases, the authors also used the CLI to explain growth for a single year at the end of their sample period, usually a year in the mid to late 1990s. The CLI coefficient in these regressions was generally smaller that the corresponding coefficient in regressions covering the entire transition period, which means that the effect of increases in CLI on GDP growth was declining over time. Logic also points to diminishing returns to liberalization, since, as economy approaches 1 on the liberalization index, there are few benefits to growth from perfecting what are already good market-supporting institutions. Havrylyshyn (forthcoming) argues that the resumption of growth in the CIS countries post-2000 suggests that it is not so much the growth of the CLI but rather achieving some minimal level of reform or the CLI that is critical for sparking economic growth. To identify where the tipping point is between the benefits generated by indirect and direct assistance programs remains a task for future research.

V. ESTIMATING EMPLOYMENT CREATION FROM FIRM-LEVEL DATA

The foregoing macroeconomic view of some of the job-creating effects of USAID programs fails to take into account changes in firms' operations as their access to resources improves and as their technical and business capabilities improve, and it provides only indirect estimates of the effect of improvements in the economic environment in which they work. Thus, the macroeconomic approach does not address improvements in employment that arise from increased competitiveness at the firm level or strengthening of markets and institutions at the economy level, two areas of primary concern to USAID.

Because these changes first make themselves felt at the level of the firm, we approached the problem by conducting surveys of firms that received USAID assistance and comparing their performance to that of a matched sample of firms that did not receive assistance. To ensure our data were generalizable, we conducted the survey in multiple countries. To keep the program tractable, we limited the study to only three countries: Bulgaria, Macedonia, and Kyrgyzstan.

The objective of this work was to consider the following hypotheses:

1. USAID indirect assistance has had a positive impact on job growth.
2. USAID direct assistance has had a positive effect on job growth.
3. There are differences in the effectiveness of USAID programs in creating jobs.

Below we present theoretical considerations, then describe our sampling process, present summary statistics, provide estimates of firm-level effects, then make cross-country comparisons of the economic environment and job growth.

Theoretical Considerations.

There are two ways to evaluate the effects of assistance programs. One may use small-scale pilot programs to test and refine assistance programs. Alternatively, one may evaluate programs *ex post* in the hope that the results will be similar for other recipients or countries. The evaluation issues for these two types of programs differ.

The evaluation of experimental programs normally revolves around determining effective processes and goals for potential programs. Experimental programs might include several methods intended to accomplish essentially the same outcomes. The evaluation process may involve only informal techniques to determine which approaches might be most effective. Thus, experimental programs might sensibly include only informal evaluation techniques to refine promising approaches. However, once the question arises about the actual impacts and replicable results of such programs, a more formal approach to evaluation is required to avoid anointing promising approaches as the standard approach, even if no valid analysis would support such a conclusion.

Formal evaluations tend to be data and analysis intensive simply because there is no easy way to determine whether particular programs really have a solid basis for providing effective assistance to transition economies. Such evaluations definitely can benefit from a qualitative assessment of field experiences, but a quantitative approach is required to assess cost effectiveness and the potential for replication. Thus, this section focuses strictly on issues involved in a quantitative evaluation of estimated program effects.

Target Population. The first issue that must be addressed in any program is what the "target population" is. As examples, assume that an agency is attempting to increase: (1) measured employment, despite the issues involved in only focusing on numbers of employees, at firms in the formal economy; or (2) the hours of employment and earnings of workers in firms under the size of 50 employees, perhaps because smaller firms are viewed as the engines of growth in transition economies. In the first case, the target

population is extremely large, including all firms and employees in the formal economy. In the second case, the target population is much smaller, including only firms with 50 or fewer employees in the formal economy.[15]

Selecting Program Firms: Random Samples or "Hand Picked." Once the target population is determined, a sampling plan for obtaining representative firms from the target population is needed. The first question is whether the firms that receive program assistance are to be randomly sampled or "hand picked" for program participation. If the goal is to determine whether the program effects are likely to be replicable for the entire population, then program firms clearly should be chosen through random sampling techniques. Otherwise, the program results really only replicate to other firms that are "hand picked" in exactly the same way.

Unfortunately, many programs proceed without random samples, either out of fear that the program may not work effectively for randomly selected firms or because program officers do not understand the importance of using random samples. The purpose of using random samples is to obtain valid results that can be validly replicated and programmed to the entire target population in order to estimate the cost effectiveness of expanding the program.

In cases of "hand picked" program participants, evaluation results are somewhat suspect because of selection bias. Such programs have a strong bias to find more positive results than would be expected if the program were expanded to all or much of the target population. Adjusting for the likely bias is difficult, but there are econometric techniques that attempt to adjust for selection bias. If a program is subject to selection bias, then every attempt should be made to adjust for that bias in the analysis and evaluation of the program. Otherwise, spurious conclusions may result, depending on the importance of the selection bias.

Selecting Non-Program Firms. Non-program firms should be selected through random sampling techniques designed to obtain the smallest sample possible for the budget available and the sampling reliability considered acceptable for evaluation purposes. For this discussion, we will assume that both program and non-program firms are selected through random sampling techniques so that no selection bias is present in the data.

Matched Samples of Program and Non-Program Firms. The above discussion indicates why samples of both program-supported and non-program-supported firms normally are desirable for evaluating program effects. We will assume here that "matched" samples of both types of firms are selected. Most types of program assistance will be more or less successful for different types of firms and workers. Assuming that assistance is targeted to firms, then both firms that received assistance and firms that did not receive assistance should be analyzed. It is possible to attempt to control for such differences solely with econometric controls, but a much more powerful approach is to use a "matched sample" of firms that did not receive program assistance to compare with the firms that did receive assistance and then still use econometric techniques to control for additional influences that could affect program results. At least up to a large limit, larger sample sizes are preferred to smaller ones to reduce sampling error, but the cost of larger samples obviously serves as a constraint.

How to match sample firms to program firms depends on which employment factors are most important in determining employment success. Some common characteristics to use in constructing matched samples are industry, region, and firm size.[16] In order to obtain reliable estimates for whatever combinations are considered important, a stratified random sample will always deliver more "power" for

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[15] The interest might be in total jobs in the formal and informal economies, but there is little hope of obtaining any valid estimates of employment in the shadow economy. Thus, the text focuses on the formal economy.

[16] Gender, age, and education would be typical characteristics for worker samples in addition to the above firm characteristics, but those characteristics are ignored in this discussion, assuming that such data are not available.

a given cost than will a simple random sample. For example, suppose that the sponsoring agency believes that impacts of a given program are likely to vary based on firm size, location, and industry. A random sample of non-program firms stratified by those three characteristics should be used to compare with all program-impacted firms. For example, assume that two firm sizes, three regions, and four industries are considered important. Then, a stratified random sample of at least N non-program firms should be used for comparison with a stratified random sample of at least N program firms.[17]

Survey Methodology.

As discussed above, the most effective means of evaluating the impact of USG assistance programs *ex post* is to survey a random sample of aid recipients matched with an equal sample of non-recipients. To attempt an estimate, subject to all the caveats discussed in the previous sections, of the effects of USG assistance programs on labor markets in Eastern Europe and Central Asia, we conducted a survey of aid recipients and non-recipients in three countries of the region: Bulgaria, Kyrgyzstan, and Macedonia. As discussed above, our survey was based on a count of employees, not on wage bills or any of the other measures recommended in Section II, because job count is the measure traditionally used in USAID evaluations and, more importantly, because we believed it to be the only measure sufficiently simple for most respondents to provide accurately. We did, however, seek to obtain information on both full-time and part-time employment in order to investigate whether part-time employees were cannibalizing the jobs of full-time workers.

The survey consisted of a questionnaire administered in face-to-face interviews of 20 no 60 minutes in Bulgarian, Macedonian, or Russian. (See Appendix E for the English-language version.) In each country, we hired a local market research firm to conduct the survey.[18] These firms administered the survey to a test group of 100 recipients of USAID assistance and a control group of 100 firms not known to have received assistance, matched for location and, where possible, for business sector.

THE ASU SURVEY IN A NUTSHELL

Countries: Bulgaria, Macedonia, Kyrgyzstan

Time Period: First USAID assistance to 2006.

Instrument: Questionnaire, in native language, administered by local pollsters.

Sample: 100 USAID recipients in each country, balanced across time, industry, region, and type of assistance, plus a matched sample of 100 non-recipients.

Survey administration: June–August 2006

We identified respondents with a four-pronged approach:

First, we combed publicly available sources of information on USAID activities for contact information. This effort yielded a small number of contacts

[17] Sampling theory suggests important advantages to a stratified sample over a simple random sample. In this example, the target population has two sub-populations—firms that did or did not receive assistance. Separate random samples should be selected for each sub-population. The minimum sample size in the text is based on having a minimum of 30 sample firms in any cell of importance for analysis: 2 firm sizes multiplied by 3 regions multiplied by 4 industries results in 24 cells of interest in this example (multiplied by 30 firms to have at least 30 firms in each cell). A sample size of at least 30 observations in a cell usually is considered the minimum necessary for statistically reliable results. This sampling approach guarantees that each firm type-firm size-region-industry cell has 30 observations for both program and non-program firms, whereas a simple random sample would have to be ***much larger*** to ensure 30 observations in each of these cells.

[18] The expectation at the outset of the program was that we would conduct this work in partnership with universities and scholarly institutes in the host countries. See our semi-annual report of September 28, 2007, for a discussion of why we deemed that approach unlikely to succeed given the time and budget constraints of this program.

concentrated in a handful of programs. Second, we approached the USAID office in each country. This yielded varying quantities and quality of contacts, depending on the availability of mission personnel. Third, we approached implementers. This effort also yielded mixed results. Finally, we used data from USAID's TraiNet database. In this way we were able in the course of roughly six weeks to gather enough contacts in enough different programs in each country to feel confident that we could produce a sample that would provide an accurate picture of the firms and individuals with whom USAID. Table 14 lists the programs included in each country's sample.

Since some of our contact data was over a decade old, and since we knew we would be polling during the height of the summer vacation season, we oversampled, selecting 400 contacts for each country. Ideally, these samples would have mirrored the balance of USAID funding for technical assistance and financial assistance, the two types of assistance we were confident we could reliably distinguish in every case. In fact, in all three countries the number of recipients of financial assistance we were able to obtain from contractors and implementers fell short of this. In all three countries we included in the sample every recipient of financial assistance in our universe, then sampled randomly from the remaining contacts. This yielded samples with financial-to-technical assistance ratios of 15:85 in Bulgaria, 4:96 in Kyrgyzstan, and 14:86 in Macedonia. Our survey firms, upon receiving the sample, analyzed it by sector and geographic region then produced a matching sample of companies not known to have received USAID assistance with the same sectoral and regional distribution as our test sample.

Fieldwork ran from July to August in Bulgaria and Macedonia, and from August to September in Kyrgyzstan.

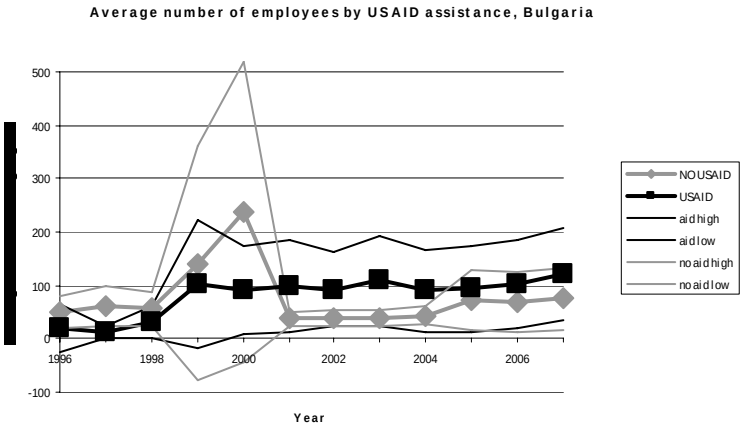
Successful interview rates were as expected; response rates were better than expected. Almost half (48 percent) of contact attempts in Bulgaria are reported to have led to successful interviews. The corresponding figure in Macedonia is 32 percent. Of the remaining attempts, refusals made up 16 percent of all attempted interviews in Bulgaria and 14 percent in Macedonia. The remainder of non-successful interviews was due to scheduling problems and vacations (7 percent in Bulgaria and 13 percent in Macedonia) and bad addresses, bankrupt firms, etc. (29 percent in Bulgaria, 42 percent in Macedonia). Note that among contacts that could be located, response rates were extremely high: 76 percent in Bulgaria and 70 percent in Macedonia[19].

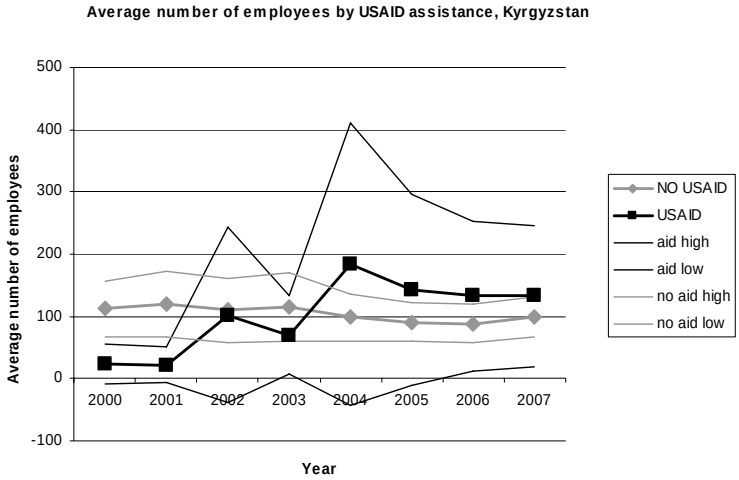
Survey Results: Growth Rate Analysis.

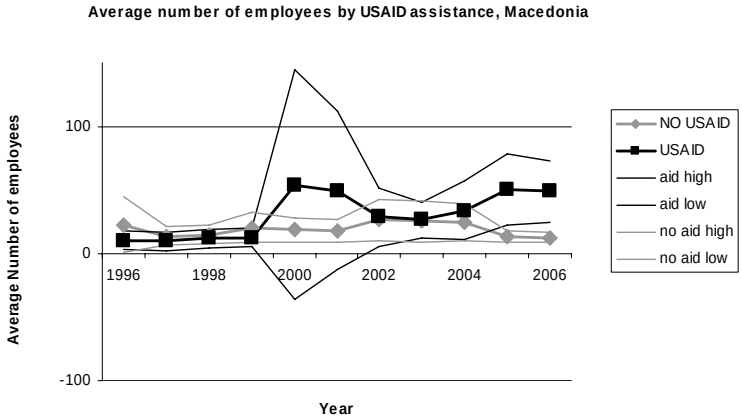
The following figure summarize the raw employment data for firms surveyed in each of the three countries.

[19] Survey data for Kyrgyzstan were not reported in a way that allowed a parallel statistical breakdown.

Figure 1–Employment by USAID Assistance







These charts show the mean number of employees in the companies surveyed in each year, plus upper and lower bound corresponding to a 0.95 confidence interval. The line marked by squares represents beneficiary firms. The line marked by diamonds represents non-beneficiaries. The thin solid lines represent the upper and lower limits of the 95% CI for beneficiaries, and the dashed lines the upper and lower limits for non-beneficiaries.

Beneficiaries in all three countries appear to have substantially higher numbers of employees in recent years than do non-beneficiaries, but given the very large variances evidenced by the wide confidence intervals, it is not clear that these differences will be statistically significant.

We begin by looking at the annual employment growth rate of firms receiving and not receiving USG assistance from 1996 to 2006. For beneficiaries, we define the change in the number of employees as the difference between the number of employees in the year following the year of assistance divided by the number of employees in the year preceding assistance (e.g., for assistance received in 1996, we have [employees 1997 – employees 1995]/employees 1995). For non-beneficiaries we calculate a similar ratio, with beneficiaries and non-beneficiaries matched randomly. The following table shows the result:

Table 2–Employment Growth Rates for USAID Beneficiaries and Controls

		Growth rate	
Country	**Time**	**Beneficiaries**	**Non-beneficiaries**
Bulgaria	1996-2006	1.088	0.08
Kyrgyzstan	2000-2006	0.124	0.139
Macedonia	1996-2006	0.56	.25

This would appear to suggest that beneficiaries in Macedonia and Bulgaria added employees more rapidly than non-beneficiaries, while in Kyrgyzstan rates were roughly the same in both cases. Before concluding that USG assistance accelerated the rate of job creation in beneficiaries, however, we must consider the possibility that this result might be a statistical artifact or the result of exogenous factors.

A simple way to do this is to use Ordinary Least Square (OLS) regression models with receipt/non-receipt of USG assistance as the main predictor of growth. Our models controlled for the age of the firm and the sector of the economy. It is reasonable to suppose that, on average, within-firm changes in the number of employees across time will be much smaller than across-firm variation. Then observed changes in job creation within firms could be overwhelmed by the much larger variance contributed by differences in employment figures across firms. One way to check for this is to control for the starting size of firms by making the number of employees at time t1 an independent variable.[20]

When we take $v=emp_{t2}$ as our dependent variable and make $v=emp_{t1}$ a control variable along with time since the receipt of assistance and the age and sector of the firm, we obtain the following for the significance of the variable marking receipt of USAID assistance:

[20] For Bulgaria we removed 5 cases, one beneficiary firm and 4 non-beneficiaries that had decreases of more than 150 employees. Some firms lost more than 9000 employees, and these cases were influential points that added significant distortion to the regression results.

Table 3–USAID Assistance, Statistical Significance

Country	**Probability**	
Bulgaria	$p < .10$	Significant
Kyrgyzstan	$p = .61$	Not significant
Macedonia	$p < .01$	Highly significant

This more sophisticated analysis of growth rates shows that USAID programs had very positive and statistically significant effects on employment growth in Macedonia, whether measured on a short-term or long-term basis. Positive and significant results were also evident for Bulgaria. No evidence of USAID assistance promoting faster job growth was evident for the Kyrgyz Republic although as we discuss below, this is likely due to problems with the sample of Kyrgyz firms.

REGRESSION RESULTS IN A NUTSHELL

Macedonia:
USAID programs had positive and statistically significant effects in both the short term (two years) and the long term.

Bulgaria:
USAID programs had positive and statistically significant effects in the short term (two years).

Kyrgyzstan:
Results were not significant, probably due to sampling issues.

There are several possible reasons for the differences between the three countries. First, it may be that the environment for the growth of firms differed in the three countries. If barriers to growth were severe enough, then whether firms received assistance or not would make no difference in their ability to grow. Sharp declines in aggregate income and high inflation are two examples of such barriers; either might reduce demand and limit growth possibilities. Institutional barriers might also play a role; there might be high levels of corruption, a regulatory regime that makes it hard for firms to expand operations (e.g. restrictions on, or high costs of, hiring additional labor), onerous taxes, etc., that depress the growth of firms whether they receive USAID assistance or not. Figure 15 shows that, in terms of macroeconomic environment, Bulgaria and Macedonia had similar patterns of per capita GDP growth, with Bulgaria's being marginally more favorable, while the Kyrgyz Republic experienced a more moderate downturn, but also much more muted growth in per capita GDP. Nevertheless, even in the Kyrgyz Republic, macroeconomic conditions do not appear to be such as to serve as an absolute barrier to firm growth.

We consider effect on firm growth of the regulatory, legal, and institutional environment of the three countries at somewhat greater length below, but the reader can confirm from Table 9, which shows several indicators of the business climate in these countries, that Bulgaria ranks well above the other two countries, and although some indicators are missing for the Kyrgyz Republic, it fares somewhat worse than does Macedonia, but not by as much as the two lag Bulgaria. Thus, while the environment for firm growth may be less favorable, it alone does not seem to explain the good results for Macedonia and the poor results for the Kyrgyz Republic.

A second possibility is that assistance of any kind requires time to make its impact felt, or, alternatively, that the effect of assistance fades quickly. In the first case, there will be little observable increase in employment among aid recipients in a country where most firms receive their aid toward the end of the sample period. Alternatively, if the effects of assistance on employment growth are not long lasting, then measures based on employment at the beginning and end points of the sample may miss mid-term growth.

If there is a systematic difference in the timing of assistance to firms across our sample, then we might expect to see systematic differences in national patterns of growth for firms receiving assistance.

Summary statistics for our sample show that in Bulgaria 50 percent of firms sampled received their first USAID assistance before or by 2001. In Macedonia, nearly 50 percent of firms received their first aid before or by 2003. In the Kyrgyz Republic, 50 percent of firms received their first assistance only before or by 2005. In fact, fully 20 percent of the Kyrgyz firms in our sample received assistance in 2007 and another 25 percent received their first aid in 2006. If there is a lag between assistance and job creation, it is possible that the lack of significant effects in the Kyrgyz data reflect the fact that most of the firms we contacted received their aid too recently for the job-creating effects of assistance to have manifested themselves. If that is the case, then repeating the survey in three to four years might yield results for the Kyrgyz Republic as favorable as those for Bulgaria and Macedonia.[21]

A third, and equally serious problem with the data, is that many firms that received USAID assistance were unaware of the fact or unwilling to acknowledge it. In the Kyrgyz Republic, only 30 of 100 firms identified as participating in USAID programs acknowledged that they had received such assistance. This sharply attenuated the sample.[22] In Bulgaria and Macedonia, 59 percent and 90 percent respectively of the firms that we identified as receiving USAID assistance were able to identify and date the assistance they received.

These figures, and the fact that they are characteristic of all three countries surveyed, suggest a widespread ignorance among aid recipients regarding the role played by USAID. In site visits to Macedonia and Kyrgyzstan, we were able to observe what are probably the two most widespread reasons for the low figures: the fact that USAID implementers did not always make their sources of support known to recipients (or recipients ignored that information); and high turnover, with attendant loss of institutional memory, at recipient firms.[23]

A further problem, which affected primarily the Kyrgyz Republic, arose from entrepreneurs' efforts to hide from the tax police. Many firms, especially before 2005, closed up shop and reopened under new names on a regular basis. In some cases they remained in the same premises, performing the same activities, and keeping the same phone numbers (which is why our interviewers were able to locate them). Personnel were similarly shifted about (at least on paper) regularly. One respondent we observed in the Kyrgyz Republic had to call his firm's bookkeeping office to verify his own job title and the name of the firm during the year in which aid was received.

These machinations have two deleterious effects on the survey. First, they drastically reduce the number of successful contacts. Our interviewers reported regular instances of non-existent addresses, obviously

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[21] Note that we are concerned to obtain a statistically significant effect of assistance on job growth, and the statistical significance depends not only on finding a difference between the growth rates of assisted and unassisted firms but also estimating the growth rates with a sufficiently small variance about the estimate, and this depends critically on the number of observations — in this case the number of treated firms.

[22] This bears again on our recommendation that USAID keep data on program participants and “lightly” survey them from time to time if it wishes to be able to evaluate the effectiveness of its programs.

[23] In Macedonia one respondent we observed denied categorically that his firm had received USAID assistance. Nor did the respondent recognize the name of the USAID program in which his firm participated. Upon hearing the name of the implementer, however, he was able to provide information on a technical assistance program in which the firm had participated several years earlier. The dates of that program matched the information on the interviewer’s sheet and the interview proceeded. In the Kyrgyz Republic we observed an interview with a firm whose highest-ranking executive had been hired only months before. The respondent denied having received USAID assistance. By coincidence, the former president of the company called during the course of the interview. She reported that USAID had been instrumental in the founding of the organization, but declined to participate in the survey. This interview was discarded, but the interviewer and the project manager at the survey company reported that such cases were not untypical and that similar interviews had undoubtedly been included in the data.

false addresses, businesses for which no registration information could be located, etc. This no doubt introduced a response bias. Second, many respondents interpreted the survey as directed not at the company as an ongoing concern, but as the legal entity in existence at the time of assistance. Instead of reporting on the effect of USAID assistance on their operations over the last seven years, for example, they might report on the impact of that assistance on the firm in the configuration it had for the one year it existed before it was shut down and recreated under a new name.

We have no doubt that these kinds of effects are, in part, responsible for the differences between the quality of the data for Bulgaria and Macedonia, as opposed to that for the Kyrgyz Republic. While it would be possible with sufficient resources to ameliorate some of these effects, the difficulties with the Kyrgyz portion of the survey provide a graphic example of the sorts of difficulty to which *ex post* evaluations are subject.

Given this, it would be inappropriate to interpret the differences in country results seen above as due to cross-country differences in the effectiveness of USAID programs.

Survey Results: Regressions.

In addition to showing that (given the limits of the Kyrgyz data) USAID programs did indeed improve the growth rate of employment, the survey data allow us to investigate whether different kinds of USAID assistance have different effects, whether the effects of USAID assistance are long-lasting, and whether environmental variables influence the ability of firms to grow. An intuitive and widely used model of firm growth in transition economies (Brown et al., 2004, Johnson et al., 2000) proposes that firm growth depends on the following broad categories of factors:[24]

Firm Characteristics. In our surveys, we obtained information on firm characteristics such as age, location, business form, size, sector of activity, export intensity, etc.

Owner and employee characteristics. We asked about owners' education, nationality, and past experience in business and government, as well as workers' education and labor union participation. We obtained data on part-time employment and the gender of employees.

Economic environment. Given the large swings in GDP encountered in the course of the transition, we used the growth of real GDP as a control for changes in the economic environment.

Business and institutional environment. We used two approaches to measure how conducive the regulatory, legal, and business environment and institutions in the country were to the growth of private enterprise. One was the Index of Economic Reform compiled by the European Bank for Reconstruction and Development (EBRD). This index has the advantage of being available for the relevant period, of providing sub-indexes for various sectors and reform activities such as privatization, market liberalization, etc., and of being comparable across countries. Its disadvantages are that the categories indexed are quite broad and the index tends to focus on "formal" measures of reform performance. We supplemented the EBRD index by asking respondents to rank the importance of various types of barriers to the growth of their firms for the years during which their firm existed. We asked them to rate each barrier from zero (no barrier to growth) to two (very serious barrier to growth). The major difference between this measure of barriers to growth and the EBRD index is that the former provides a measure of the business environment that applies to all firms, while the latter provides a firm-specific measure of each firm's perception of the effect of the environment on its ability to grow. The latter approach allows us to ask about specific barriers, such as the effect of gray market firm competition, for example. In

[24] Refer to the English translations of the surveys provided in Appendix E for the specific characteristics captured and the ways in which they were coded.

addition, it reflects not only the existence of barriers but also their importance to local firms and the perceived intensity of the impediment. The disadvantages of this approach include the subjective nature of the responses, the need for careful interpretation of the results, and difficulty in cross-county comparison of responses.

Assistance received by firms. We asked respondents who reported receiving assistance to identify the type of aid their firm had received over the life of the firm and the source of the assistance. For USAID assistance, we constructed three variables. The first indicates whether the firm had received USAID assistance. The second distinguished between technical assistance and financial assistance. The third recorded whether the firm received assistance, regardless of source or nature, after the initial experience with USAID.[25]

A comprehensive model based on a longitudinal survey of firms that covers both firms receiving USAID assistance as well as those not receiving it can be written as:

$$gemp_{i,t} = F\,(\text{Firm characteristics}_{i,t}, \text{Owner and employee characteristics}_{i,t}, \text{Economic Environment}_{i,t,\,(\text{or } t)}, \text{Business and institutional environment}_{i,t\,(\text{or } t)}, \text{Assistance received by firms}_{i,t}) \qquad \text{Eq. 1}$$

The dependent variable is defined as year-to-year growth in the number of full-time workers in firm *i* in year *t*, where *t* is time and *i* is an index of the 200 firms in each national sample:

$$gemp_{i,t} = y_{i,\,t} / y_{i,\,t-1} \qquad \text{Eq. 2}$$

where y is the number of full-time workers in year t

We began by testing firm characteristics and relevant responses to the survey questionnaires for inclusion in regressions based on Equation 1. In doing so, we discarded variables lacking explanatory power and focused our efforts on variables with a clear economic or policy rationale for inclusion in the regression equations. To facilitate the discussion of the results, brief definitions of these variables are provided in Table 11.

Before we turn to the results, we wish to discuss two issues related to the specification of the model. The first of these is the choice of "number of full time jobs" as the measure of job creation and job growth. The second is the question of how to measure the duration of the job-creating effects of USAID assistance and the relative effectiveness of different kinds of USAID programs.

In the first section of our report, we argue that a count of jobs is not the best measure of the effectiveness of USAID programs, yet we ourselves base our study on the job count. There are two reasons for that. First, it ensures compatibility with existing reporting on the effects of USAID assistance on employment growth. Although few reports to USAID from implementers or evaluators have explored employment impacts, those that do have based their analyses on job counts. Indeed, USAID's charge to ASU in contracting for the current report was to discuss the usefulness of different measures of "job creation" and to evaluate USAID programs with respect to their effectiveness at "creating jobs." Although we discourage the use of job counts as a metric for program effectiveness, job counts do seem to be the metric currently employed by USAID implementers and evaluators. By relying on job counts, then, we ensure that our results are comparable to those of existing studies and that they are presented in a form familiar and useful to policymakers. Our second reason is a practical one. A retrospective survey of firms, especially one that covers a period of as much as 10 to 15 years, must rely on information that is

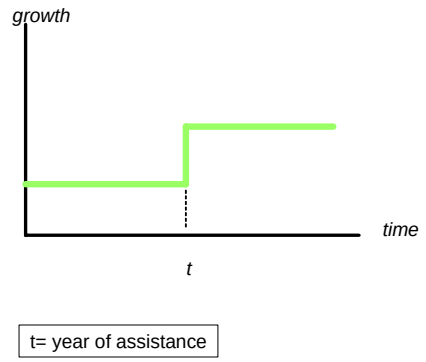
[25] The number of respondents who received additional assistance after their work with USAID was small enough that it would not have been useful to distinguish between different types of “post-USAID” assistance.

relatively easy for respondents to provide. Most firms were able to provide employment data. Asking firms to provide more complex measures, such as average wages, the growing complexity of skills required by the firm, etc., would have reduced response rates, introduced biases, and probably yielded "guesstimates" and inaccurate responses.[26]

The second issue with respect to the specification of Equation 1 is how to measure the duration of the effects of USAID assistance and the relative effectiveness of different kinds of USAID programs. In order to gauge whether the effect of USAID intervention was mainly short term or lasted for a longer period, we constructed "received assistance" or "T" variables in two different ways. To test for long-term effectiveness of assistance, we set a T variable for a firm to zero in years prior to its first participation in a USAID program and one for subsequent years as shown in Figure 2.

Figure 2–Long-Term Effect of Assistance

T dummy = 1 for all years after assistance



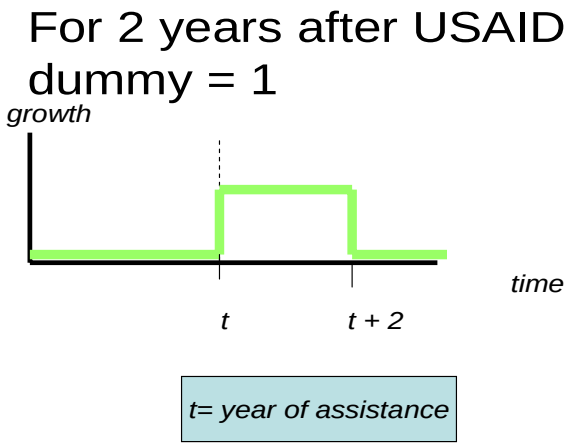
Firms in the control group have a value of zero for all years. A significantly positive value for this variable implies that the annual growth rate of jobs in that firm was, on average, higher in the post-participation years than it was in either the firm's pre-participation years or in firms that did not receive USAID assistance. The extent to which this variable is able to measure long-term effects must be interpreted in the context of the discussion in the foregoing section of the length of our sample and the years in which firms participated in USAID programs. For many firms in the sample, the "long-term" may not encompass more than three or four years.

We also tested for short-term effectiveness of USAID programs. In this case, the value of T was set equal to one for the two years following USAID assistance and zero for all other years as shown in

Figure 3.

[26]Again, this bears on our recommendation that projects develop *ex ante* metrics for success and that participants provide information on these metrics before and after participating in USAID programs.

Figure 3–Short-Term Effect of Assistance



Observations outside this period were ignored. A significant coefficient for T in this specification indicates that the annual growth of employment in the firm was greater in the two years after participating in a USAID program than it was in other years and in firms that did not receive USAID.

USAID assistance was also specified in two ways. In one case, all USAID programs were included in a single T variable. A significant coefficient for this variable signifies that any type of USAID program had a significant effect on job growth (for two years or longer, depending on the values of the short-term and long-term variables). We also separated USAID programs into two types, those involving non-financial assistance and those that involved financial assistance.[27] In this case, the specification included two T variables, one set to 1 if the firm received non-financial assistance and the other set to 1 if the firm received financial assistance. If the coefficient values for the two aid variables were significant but differed from each other we could conclude that both types of assistance increased job growth but that one did so more than the other, providing a measure of differences in program "effectiveness."

Survey Results: Implications for Effectiveness of USAID Programs.

For each country, the sample consisted of a panel of approximately 200 firms, 100 that had received USAID assistance and 100 that had not. We used both the full sample period, starting from 1991, and a reduced sample period starting in 2000. The latter provided more robust parameter estimates in some cases because much of the USAID assistance was received after 2000. The choice of terminal year

[27] We had originally planned a much finer-grained analysis, but given the relatively small number of programs for which we had sufficient detail on the nature of a firm's participation, the only distinction we could make reliably across programs was "technical assistance" vs. "financial assistance."

depended on the availability of exogenous variables.[28]

A variety of specifications of Equation 1 was used to derive our conclusions regarding the effect of USAID programs on firm growth.[29] In part this is because there is no *a priori* expectation that all of the explanatory variables, e.g. firm characteristics (location in capital city vs. outlying areas; industry vs. services; unionized or not, etc.), should lead to significant differences in firms' ability to increase employment. Moreover, as can be seen from Tables 9 and 10, a relatively full set of explanatory variables uses up a large number of degrees of freedom and, in part due to multicolinearity among some explanatory variables, results in high standard errors. We experimented with a variety of specifications that utilized subsets of the explanatory variables by dropping explanatory variables that seemed the least informative. A sampling of these is provided in Appendix D.

The results for the Kyrgyz Republic yielded few significant coefficients, a result of the fact that we had so few firms admitting having received USAID assistance. For that reason, we do not report results for the Kyrgyz Republic here. On the other hand, the results for Bulgaria and Macedonia yielded robust and significant conclusions about the effectiveness of USAID programs as well as about the influence of environmental variables and firm and employer characteristics on job growth. These conclusions are summarized in Table 15.

In Table 15 (and in more detail in Appendix D), we report positive and significant effects of USAID assistance on job growth in Bulgaria and Macedonia. We report "yes," signifying evidence of positive effects of USAID assistance on job growth at recipient firms if the coefficient for the relevant dummy T variable is statistically significant at the 5% level. As a partial robustness check, we require that the coefficient for T be significant across a several different specifications, since there is no theoretical guidance on which explanatory variables should be included in the specification. Second, if some subsets of explanatory variables yield a significant T coefficient for one country, we require that we find a significant T coefficient for some of the same subsets of explanatory variables in the other country in order to report a "yes" for both countries of the identical treatment. That is to say, we require that, in order to report "yes" for both countries, there must be some identical specifications of Equation 1 that yield a significant T coefficient for both countries. We encountered no case where we found that specifications in one country did not yield a significant value for T in the other country, but where there were equally persuasive regressions in the other country that did yield a significant coefficient for T, but could not do so using the data for the first country. In the case of long-run effectiveness, there were specifications that yielded a significant coefficient for T for Macedonia, but these specifications did not yield a significant coefficient using Bulgarian data. Further, we were not able to obtain significant coefficients for T for Bulgaria using other specifications. On the other hand, in the case of short-run effectiveness there were several specifications where the T coefficient was significant for both Macedonia and Bulgaria, and thus we report "yes" for both countries.

It is worth remarking that it is not necessary to use identical specifications for both countries in order to infer the effectiveness of USAID assistance, but we chose to use this approach to impose a higher burden for claiming program efficiency and not simply to try to show effectiveness by seeking out one or two specifications for each country that would yield a significant T coefficient.

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[28] In a few cases firms were dropped because of missing data.

[29] It is common in studies that seek to find the effect of aid programs, treatments, policy interventions, etc., to employ statistical procedures that take into account the fact that the “treated” firms may, as evidenced by the fact that they were selected for the treatment, have characteristics that made them better suited to benefit from the treatment. Such a procedure is especially appropriate if the sample is a random draw. In our case, however, the sample of non-treated firms was selected to have the same characteristics as the treated firms. Moreover, because we use the “differences in differences” method (Meyer, 1995), we also test each firm’s performance against itself, not only against untreated firms.

In the case of Macedonia, the effects of all USAID assistance and of USAID technical assistance are significant and positive both for the two-year horizon and for the longer term, although, of course, the length of the longer term varies from firm to firm. In the case of Bulgaria, the regressions seeking to find a long-term impact of USAID program participation on employment growth yielded no significant coefficients for the variables indicating participation in USAID programs, but there was a significant increase in growth rate over the two-year horizon for all firms participating in USAID programs as well as for firms participating in technical assistance.

Beyond statistical significance, what is more important for program evaluation is the magnitude of the effect of USAID assistance on job growth. This can be approximated by comparing the value of the coefficient for T relative to the value of the dependent variable. Note that the dependent variable is the year-on-year growth of employment. The mean value over the sample period is about 1.09 for Bulgaria and 1.13 for Macedonia. The value of the coefficient for the two-year T dummy in Bulgaria is about 0.07. This means that job growth in firms that received USAID assistance was 1.09 + 0.07 = 1.16 for the two years following the receipt of USAID assistance. A very rough estimate of the direct job-creating effects of USAID programs in Bulgaria could be obtained by multiplying the number of firms that received assistance by the average number of workers employed by firms that received USAID assistance and growing the resulting number by the value of the T coefficient for two consecutive years.

MODEL RESULTS IN A NUTSHELL

Macedonia:
USAID programs had positive and statistically significant effects in both the short term (two years) and the long term.

We estimate for the 90 firms successfully surveyed, USAID assistance created 490-820 additional jobs in the first year following receipt of assistance and 550 to 980 additional jobs in the second year. This is clear evidence that USAID assistance had a major impact on firms' ability to create new jobs.

Bulgaria:
USAID programs had positive and statistically significant effects in the short term (two years). (See text for methodology for estimating number of jobs created.)

Kyrgyzstan:
Results were not significant, probably due to sampling issues.

In the case of Macedonia, the growth effects of USAID programs were even stronger. First, they were found to be significant for the two-year period as well as for the longer period, where we seek above-average growth for all years subsequent to the firm's participation in a USAID program. Second, the absolute value of the T coefficients was greater in the case of Macedonia than in Bulgaria. The mean job-growth for our sample was about 1.13 and the T coefficients ranged in value from 0.12 to 0.20 across a range of specifications. Thus, Macedonian firms that received USAID assistance grew at a rate roughly equal to 1.13 + 0.12 to 0.20 = 1.25 to 1.33 per year. As in the Bulgarian case, a very rough estimate of the jobs created by these USAID interventions could be obtained if the number of participating firms were available on an annual basis. Since we do not have this data, we perform this calculation only for our sample of 90 firms that received USAID assistance. The average employment in these firms was approximately 46, and thus they employed about 4,100 workers. The faster growth thus created 490-820 additional jobs in the first year and 550 to 980 additional jobs in the second year following the receipt of USAID assistance. This represents a major positive effect on employment at these firms, and it is clear evidence that the assistance that these firms received did have a major impact on their ability to create new jobs.

We close this discussion with two caveats. First, there is the possibility that these estimates of the positive effects of USAID programs may be biased upwards because our sample was limited to firms that were still in existence in 2007. Firms that went out of business after participating in USAID programs were not

included in the sample, limiting us to measuring growth at "successful" firms. Second, in our specifications, we treat all USAID programs as being the same, other than the distinction we make between financial and non-financial assistance. Thus, differences in the design, implementation, and effectiveness of USAID programs across countries may be responsible for some of the evident differences in outcomes across countries. While we have used a broad categorization of USAID programs, clearly within each category there are different contractors and program designs. There may be systematic inter-country differences in programs that account for the evidently effective interventions in Macedonia and the less effective interventions in the Kyrgyz Republic. A more extensive review of these programs might reveal differences in program design that explain some of the difference in cross-country performance of assistance programs revealed by our study. This process would be, to some extent, a spiral enterprise. Our initial reading of project reports influenced the choice of barriers we have investigated here. With the results of our survey in hand, one might return to the project reports with an eye specifically toward activities affecting the conditions we have found to be significant. From there one might conduct a second, more in depth quantitative study. Needless to say, such an independent evaluation would require significant investments of time and money and a considerably deeper interaction with a larger number of recipients than that which characterize this report. This is a good example of the disadvantages of *ex post* vs. *ex ante* data gathering.

Survey Results: Indirect Effects.

The foregoing regression results can also assist in examining the effect of USAID programs that do not directly target firms but help them indirectly by improving the economic, legal and institutional environment in which they operate. Our specifications include environmental variables, by which we mean the institutional, legal, financial, and regulatory environment wherein firm growth takes place. We noted above that one way of capturing such environmental variables was with the EBRD index of reform progress, perhaps because, as noted above, this index reflects existing rules and laws rather the efficiency with which they are applied. This index did not prove to have a statistically significant effect on firm growth in our regressions. Our surveys, however, also sought firms' responses regarding the effects of more specific types of barriers to their growth. Our regressions identified some of these environmental factors as significant barriers to firms' growth.

For example, fast-growing firms cited difficulties in obtaining business premises as a barrier to their growth. USAID assistance to improve cadastres, to privatize and establish clear title to real property, to improve the functioning of the real estate market, and to strengthen mortgage markets, would be of great help to firms that are growing quickly. The tax burden was also more intensely felt by fast-growing firms, suggesting that tax reform and improvements in tax collection and administration would benefit firms that are growing rapidly.

The regression results for Macedonia were particularly useful in identifying environmental barriers to growth. These findings were supported, in part, by results for Bulgaria and even for the Kyrgyz Republic. The following barriers were found to have a significant effect on firms' growth in at least one country: business environment, difficulty in finding qualified labor, difficulty in purchasing needed inputs, competition from gray economy firms, and legal disputes. Moreover, the effects of these barriers on growth were in some cases large relative to the mean of the dependent variable. For example, the coefficient for the business environment variable ranged from –0.05 to –0.1, meaning that a reduction of firms' perception of this variable as a barrier to growth from very important (=2) to somewhat important (=1) would correspond to an increase in the growth rate of employment in all firms by roughly 5 to 10% per year. Similarly, for competition from gray economy firms, the coefficient in Macedonia was above –0.4; for legal disputes it was –0.08. Since the mean response for these variables was around 1, USAID programs to improve the rule of law, to improve administration to root out gray market activity, etc. would have a large effect on the growth of firms' employment. Moreover, note that this indirect effect

would apply to all firms in the economy, not only to the firms that were the direct beneficiaries of USAID program aimed at helping firms directly.

To provide a comparison of the effects of improving the institutional environment to our estimates of the job-creating effects of direct assistance to firms that we calculated for Macedonia above, we summed the coefficients of the environmental variables using coefficients from several regressions.[30] The coefficient sums thus obtained ranged from -0.08 to -0.22. Recalling that the average growth rate of our sample of Macedonian firms was 1.13, so reducing all firms' perception of all surveyed variables as a barrier to growth from very important (=2) to somewhat important (=1) would correspond to an increase in the growth rate of employment in all firms by roughly 7 to 20 percent per year for each year. Thus would mean increase in employment of 290 to 830 jobs in these firms in the first year in which such an improvement in the business environment took place.

Such an estimate would seem to suggest that such indirect assistance programs have much greater potential than do direct assistance programs, because the indirect assistance programs have the same job-creating effect at all firms that direct assistance programs do only at firms that receive assistance. The problem with such an argument is that changes in respondents' perception of barriers form 2 to 1 are difficult to bring about, and in our review of responses, the mean response changed very slowly over time. This means that a change in mean response from 1.1 to 1.0 would require significant efforts to change policies, institutions, laws, etc. The effect of such a change on the employment at our sample of 90 Macedonian firms would thus be more like 29 to 83 jobs, much less than the effect of direct assistance. This must, however, be weighed against the fact that indirect assistance would increase employment at all firms, not just those receiving direct assistance. Of course, any conclusions regarding the relative effectiveness of direct and indirect assistance would also have to consider the relative costs of either type of intervention.

The relative ratings that firms in the three countries give to environmental obstacles have remained relatively stable over time, as Figure 14 shows.

Managerial Skills. Unavailability of appropriate managerial skills was not a major problem in the three countries. Even in the Kyrgyz Republic, the rating was less than 1, meaning a moderate barrier to growth.

Labor Availability. The ability to hire labor with appropriate skills was not a major barrier to growth in any country, and in Bulgaria, the ranking was below 0.5 for much of the sample period. Given the levels of unemployment in Bulgaria and Macedonia, this result is not surprising.

Business Premises. Obtaining office and factory space was a problem for fast-growing firms according to our regression results. Overall, however, this was not at all a problem for Kyrgyz firms, and a decreasing problem over time for Bulgarian and Macedonian firms, many of which were evidently not expanding rapidly. Presumably, improvements in the real-estate market and in financial institutions contributed to the easing of this serious problem for fast-growing firms. In the Kyrgyz Republic, it may emerge as a problem if firms' growth accelerates.

Ability to Purchase Inputs. The ability to purchase needed inputs on the market was a moderate problem for firms, but its importance decreased over time as markets developed and shortages disappeared.

Taxes. Respondents in Macedonia saw taxes as a barrier to growth more than did their counterparts in Bulgaria and the Kyrgyz Republic. The burden decreased slightly in Macedonia, but increased in Bulgaria, especially after the stabilization.

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[30] We considered various criteria for summing, including significant coefficients only or summing all coefficients if we could not reject significance of the group of coefficients, etc. Given the broad criteria, the results should be viewed as a broad approximation rather than as a point estimate.

Internal Finance. Lack of own funds was seen as an important barrier to expansion. In all three countries, the variable averages over 1 for the sample period. In the Kyrgyz Republic, it is becoming less of a barrier, but in the other two countries there are indications that internal credit is becoming an increasing problem for firms seeking to grow. Thus, policies to help firms generate internal financial resources may well be worth exploring.

Business Environment. The bureaucratic and regulatory framework was seen as most problematic by Macedonian respondents, although it has decreased in the course of the last decade. It is less of a problem in Bulgaria and virtually not a problem in the Kyrgyz Republic.

Legal Disputes. Macedonian respondents saw legal disputes in which their firms were engaged as a major barrier to their growth. Macedonia is notorious for the number of legal disputes clogging its courts, but the result is nevertheless surprising. Bulgarian ratings for this factor are nearly half the Macedonian level, suggesting that the legal system in Bulgaria may function better. In the Kyrgyz Republic, legal disputes were not at all an issue early on in the sample, probably because there was not much of legal system to which firms or customers could turn. The rating for this variable is increasing, but it is still not a major problem.

Gray Market Competition. Macedonian respondents rated competition from gray economy firms as the biggest barrier to their growth with ratings over 1.5 for some years, meaning that most firms rated this variable as 2 – a severe barrier to growth. In Bulgaria and even more so in the Kyrgyz Republic, gray market competition was seen as less of a problem.

External Finance. Lack of access to external finance was among the most highly ranked barriers to growth in Bulgaria and Macedonia. It was also ranked as a major barrier in the Kyrgyz Republic, but with a lower numerical score that in the other two countries. There was a significant decline in the value of the indicator over time in all three countries, but external finance continues to be a major impediment to growth according to our respondents. Thus, further improvements in financial intermediation may be warranted.

Overall, the ratings suggest that there are areas where firms encounter barriers to growth. Determining whether policy initiatives to overcome such barriers are appropriate is a more difficult issue. It is noteworthy that we saw the fastest employment growth among Macedonian firms and the slowest growth among those in the Kyrgyz Republic. At the same time, Macedonian respondents rated more environmental variables as important barriers to growth. This suggests that the perception of the existence of barriers to growth may be dependent on the amount of growth firms are generating or would like to generate. If entrepreneurs do not desire to grow or do not see opportunities for growth, then lack of finance, whether internal or external, or the ability to lease a new store, factory, or warehouse may not be seen a as a major barrier to growth. Thus, the perception of barriers may tell us something about entrepreneurs' expectations and plans as well as about the business environment.

VI. CONCLUSIONS AND RECOMMENDATIONS

Reporting and Measuring Employment Creation. Section II suggests that counting jobs is not the most effective way for USAID to measure its impact on the labor markets of the countries where it works.

Among characteristics of employment that might be considered are:

- Wage levels, benefits, and hours worked
- Skills of the employed
- Labor income growth over time
- Labor market flexibility

Different classes of programs affect labor markets in different ways, and hence the measures that most accurately reflect program effects will differ. We believe USAID understands this point, but the need to consider qualitative aspects of employment must be stressed continuously in interactions with recipient countries, contractors, those who determine USAID's budget, and those who evaluate the effectiveness of its programs.

It is important to select measurement criteria *in advance* of project implementation and to consider all stakeholders. Failure to consider the various stakeholders can lead to an evaluation procedure that distorts and may even subvert the goals of the project. Failure to establish an evaluation regime *a priori* and to mandate the collection of appropriate data will force USAID to conduct *a posteriori* evaluations, which will nearly always be more costly and more time consuming, and which will inevitably yield less information and produce less easily interpreted results.

Section IV illustrates some of the difficulties facing investigators attempting to evaluate labor market changes after the fact. The most significant barrier ASU faced, and probably the source of a great deal of the uncertainty in the results for Kyrgyzstan and, to a lesser extent, in Bulgaria, was the absence of basic information on USAID contacts over the years. There is no remedy for this problem for past programs, but ASU recommends that USAID collect and retain basic demographic information and contact information for all participants in its future (and current) programs. This archive will allow USAID to conduct retroactive investigations in the future, should it become necessary to examine projects in ways not currently included in USAID reporting. For the same reasons, it would be wise to collect and retain information on implementers and contractors.

Estimates of Employment Creation in Macedonia, Bulgaria, and Kyrgyzstan. Mindful of the limitations of *ex post* investigations, in Section IV ASU suggests a means of estimating job-creating effects on a country-wide basis. Using an econometric model based on data from a survey of a matched sample of USAID recipients and non-recipients, it is possible to generate estimates of growth rates for the two groups. A regression analysis showed significant effects over both two-year and longer-term windows for Macedonia, with USAID-assisted firms growing 10–20 percent faster than unassisted firms. Bulgaria shows significant effects over a two-year window, with increased growth rates of about 10 percent.

With these growth-rate estimates and with a count of the number of employees at all USAID beneficiaries, one can generate estimates of the additional growth in employment attributable to USAID efforts. Where matching samples are not available, a similar exercise can be conducted using growth estimates based on macroeconomic data and multipliers.

The regression analysis revealed that certain barriers to growth—access to premises, competition from the illegal firms, etc.—did, indeed, significantly impede expansion and, by extension, reduced the effectiveness of potentially job-creating activities USAID conducted. Clearly, any effort to lower these

barriers will facilitate increases in employment.

ASU's analysis did not find significant differences in the effects of technical assistance and financial assistance, but that is probably due to the low number of recipients of financial assistance for whom we were able to obtain valid contact information.

Business Environment. Closely related to the wider processes of privatization and economic restructuring in Eastern Europe and Eurasia, the reform of the regulatory, legal, and commercial/banking sectors clearly have substantial indirect impact upon the business environment and the growth of firms. This is also confirmed in our regression analysis in Section IV. Regulatory restrictions, for example, that limit the flexibility of MFIs in offering larger commercial loans can also slow the process whereby some micro-enterprises are transitioning into small businesses. Competition from the gray and informal markets, especially on matters of tax avoidance, can place new entrepreneurs at a significant disadvantage. Such impediments within the business environment slow economic growth and blur the lines between the gray, informal, and legally regulated business operations. One of the key recommendations arising from the survey of firms in Bulgaria, Macedonia, and Kyrgyzstan is the need for continuing USAID priority for projects that yield genuine reform and transparency within the business environment.

Job Creation and Sustainability of Economic Development. One of the clearest messages arising out of the survey of firms in Bulgaria, Macedonia, and Kyrgyzstan is the demand for greater accessibility to credit. To date, one of the most effective USAID-supported instruments for delivering such credit to MSEs and SMEs has been microfinance. While MFIs have proven to be remarkably profitable and sustainable once well started, the continuing demand for greater and more flexible credit yields several overlapping recommendations. First, the very growth of the microlending industry requires continued attention to technical training. The careful training of lending officers has been at the heart of the success of MFIs to date, and the continued growth of the industry requires renewed attention to such training. Second, the ready profitability of MFIs has made them attractive to international investors, but the pressure from international investors and MFIs themselves will yield inevitable transition of some MFIs into commercial banks. There is already no clear measurement based upon loan size in judging what is an MFI and what is a commercial bank. In this transition within the credit industry, USAID continues to have a development role in encouraging micro-lending to poor and underserved populations. Therefore, in summary, USAID technical and financial support for the start-up, growth, and refinement of microfinance is transitioning economies is one of the more obvious lessons learned and resulting best practices arising out of this study.

Microfinance. Finally, this evaluation of job creation reconfirms the importance of microfinance institutions (MFIs) for economic growth in Eastern Europe and Eurasia (see Appendix F). Not only have MFIs responded to the demand for credit documented in the survey of firms, but these MFIs have become readily sustainable credit institutions in their own right, flourishing within the reformed credit and financial environment of the region. As noted in Appendix F, there are obvious conclusions and recommendations arising out of the success of MFIs in Eastern Europe and Eurasia, as follows:

- The success of MFIs can be measured by extremely low loan repayment delinquency rates, which are in turn a function of the flexibility that MFIs have had in structuring loans to meet borrower needs and repayment capacity.
- Given their relatively rapid profitability, MFIs, while they may still require initial capitalization, ought not to require subsequent infusions of capital for their successful operation.
- Financial regulatory regimes governing credit institutions need to provide the flexibility to permit MFIs to maximize profitability by broadening their portfolio to become registered as commercial banks.

- MFIs have become significant engines of direct and indirect job creation in their own right, as evidenced by the significant number of micro-size, family enterprises that have moved beyond micro-lending to SME enterprises with the assistance provided through MFIs.

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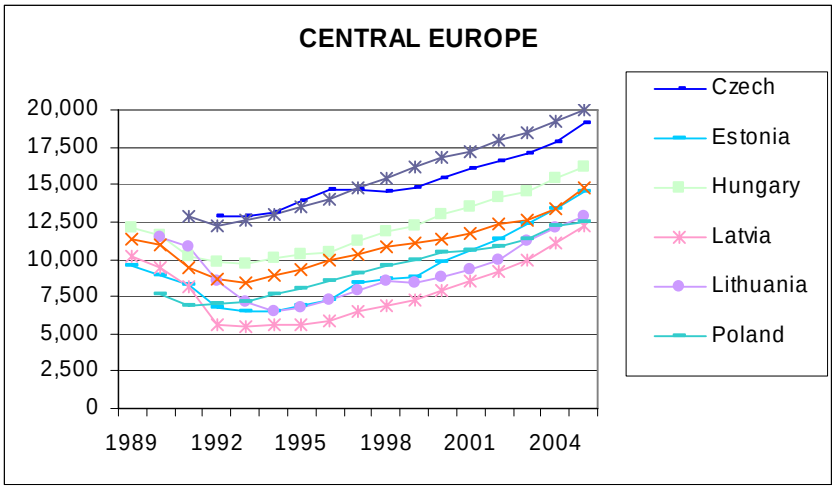
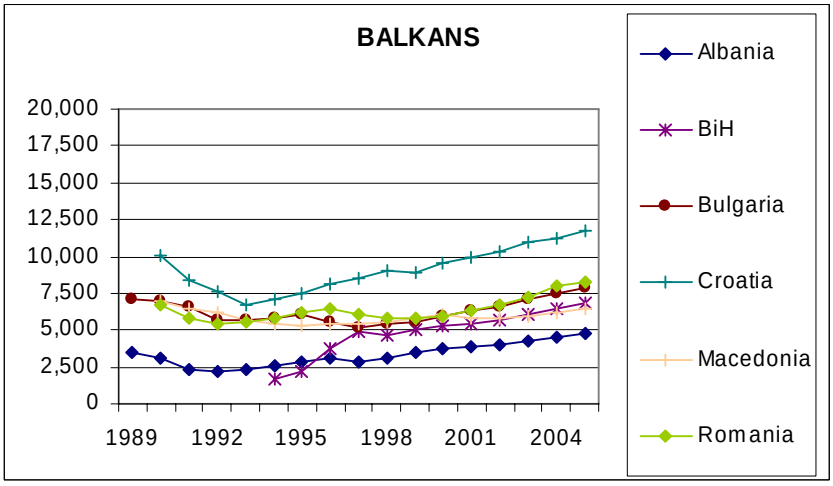
FIGURES AND TABLES

Figure 4–Per Capita GDP

2000 PPP





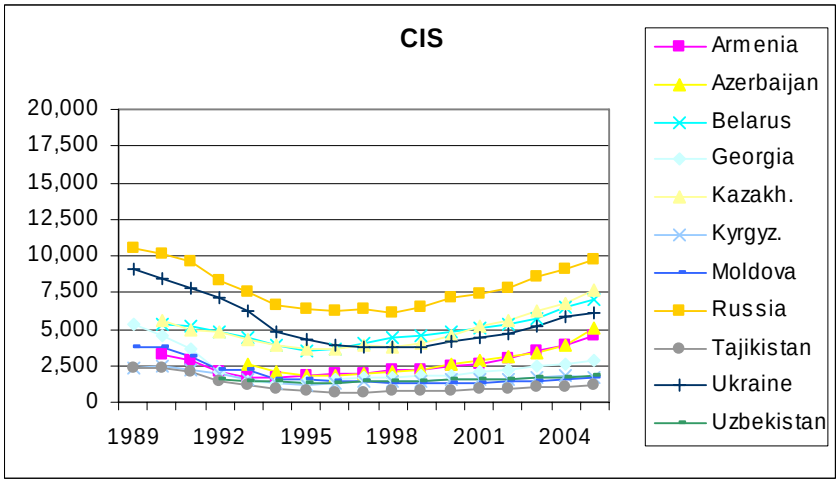
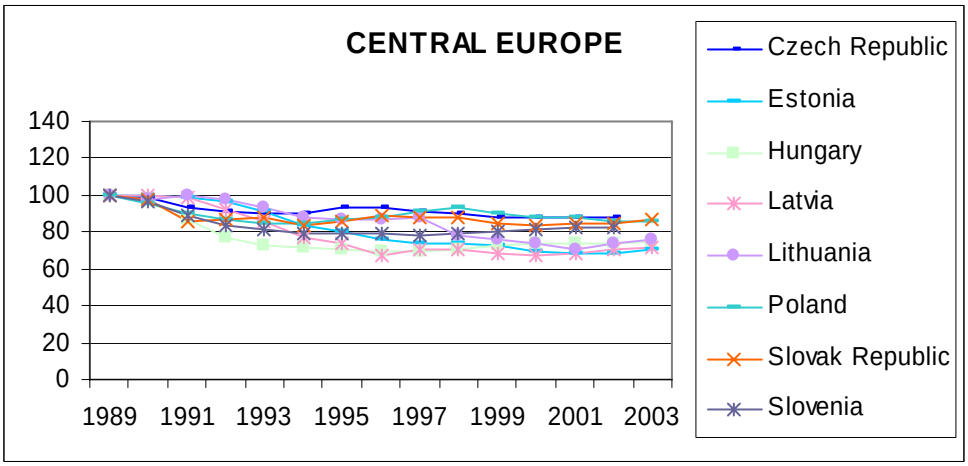
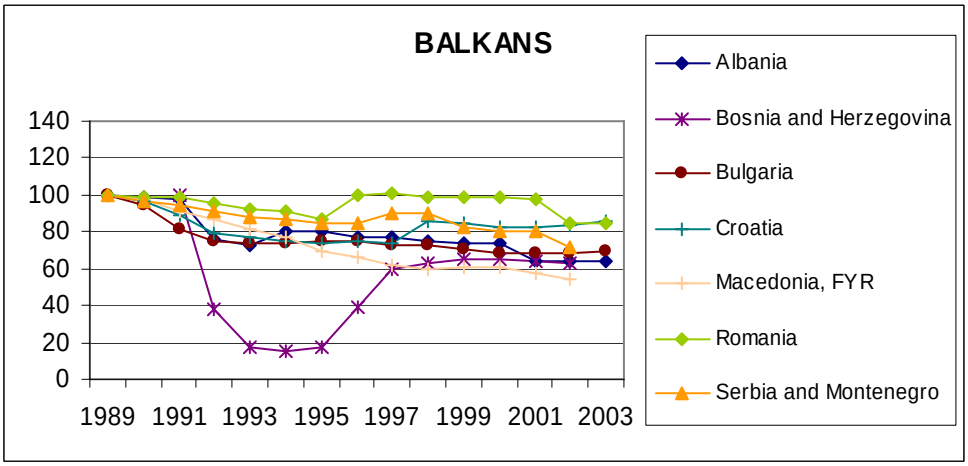


Figure 5–Total employment

1989=100





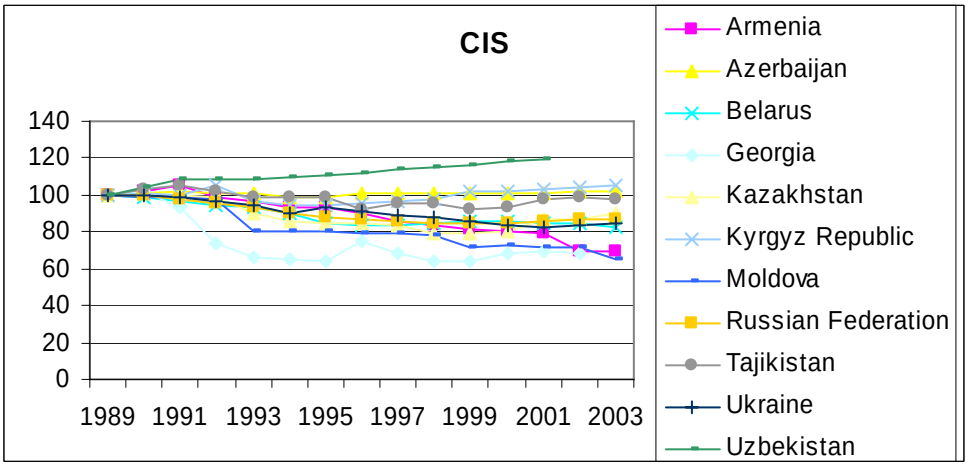


Figure 6–Total Employment – GDP Elasticity for Increasing and Decreasing GDP

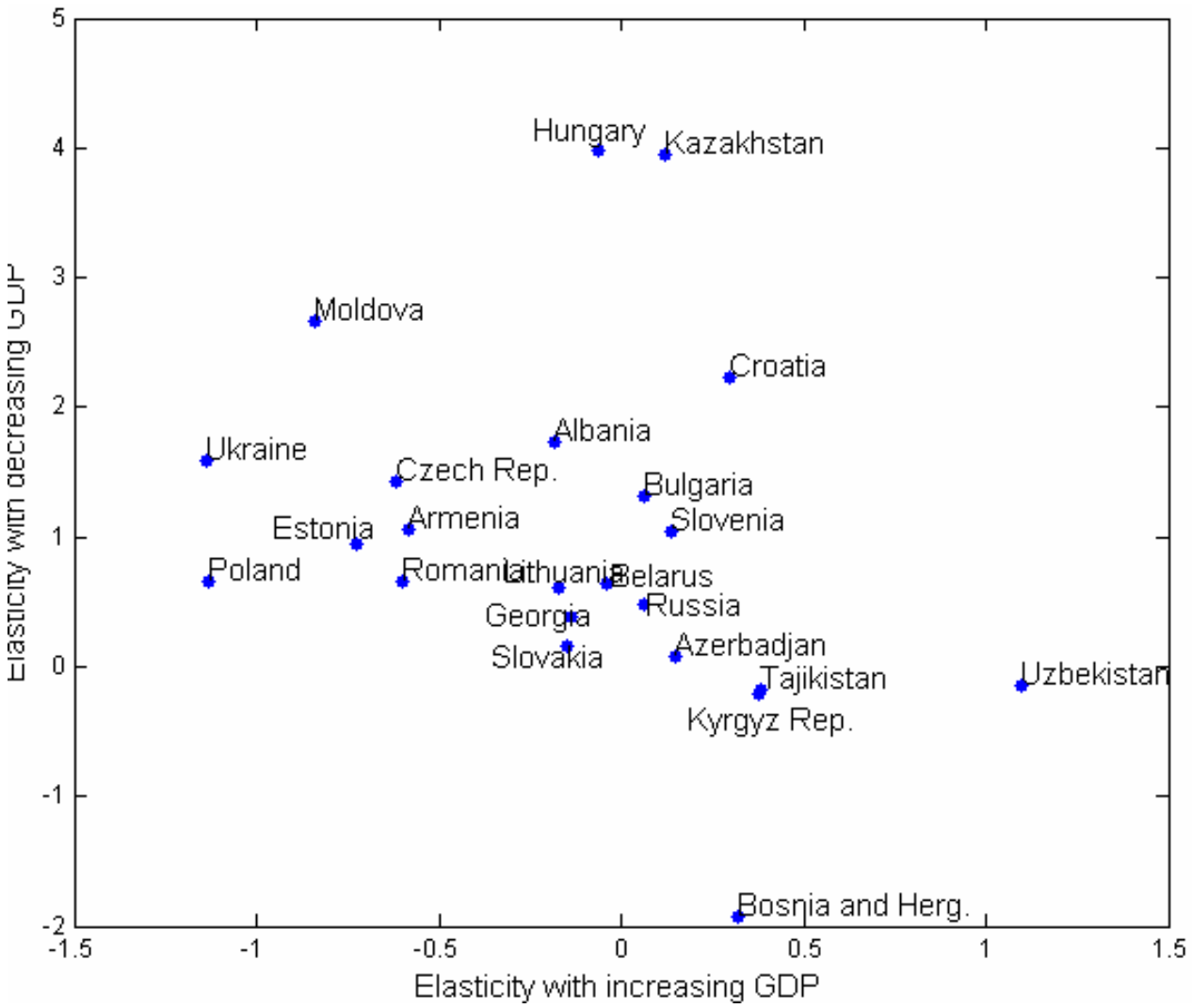
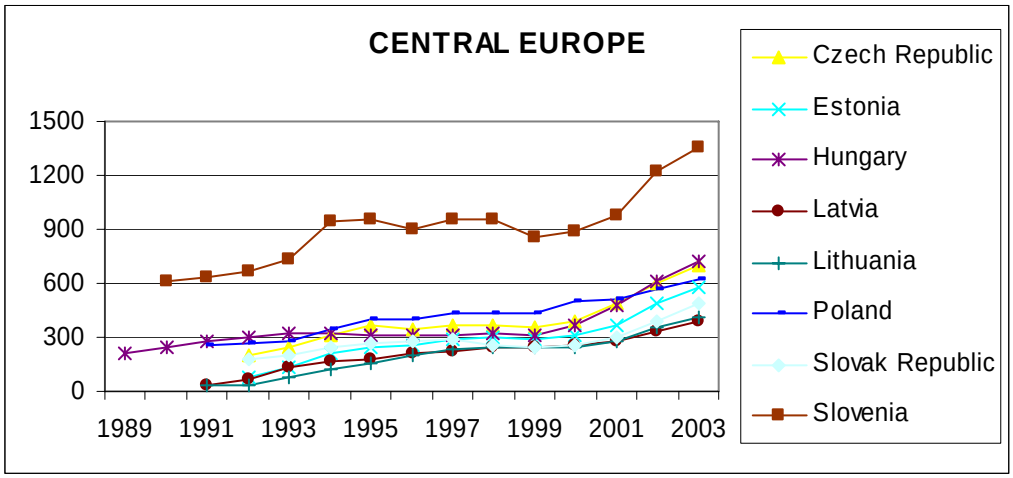
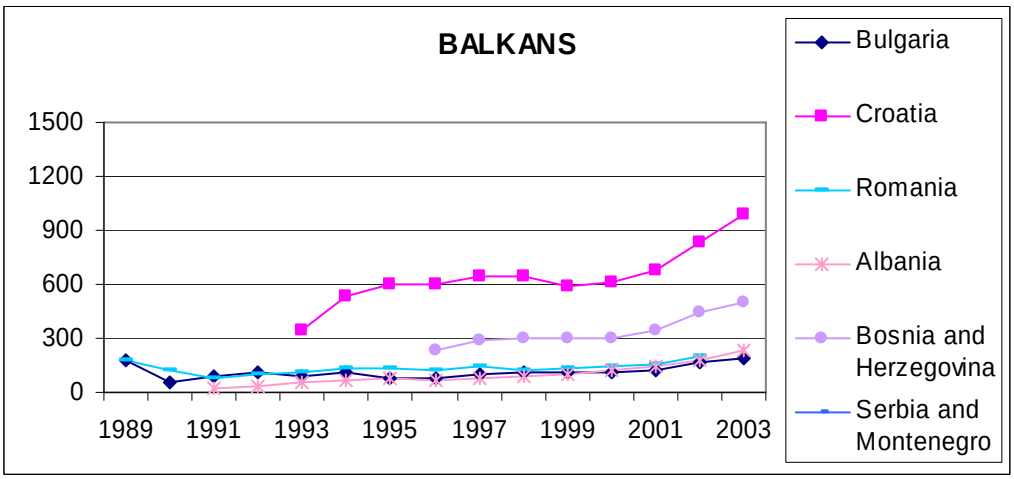


Figure 7–Gross Average Monthly Wages

(US $)





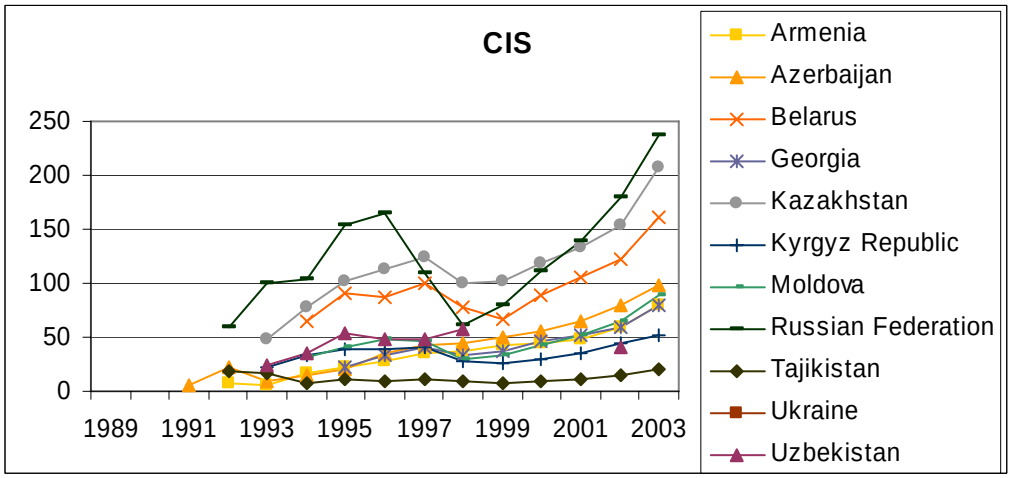
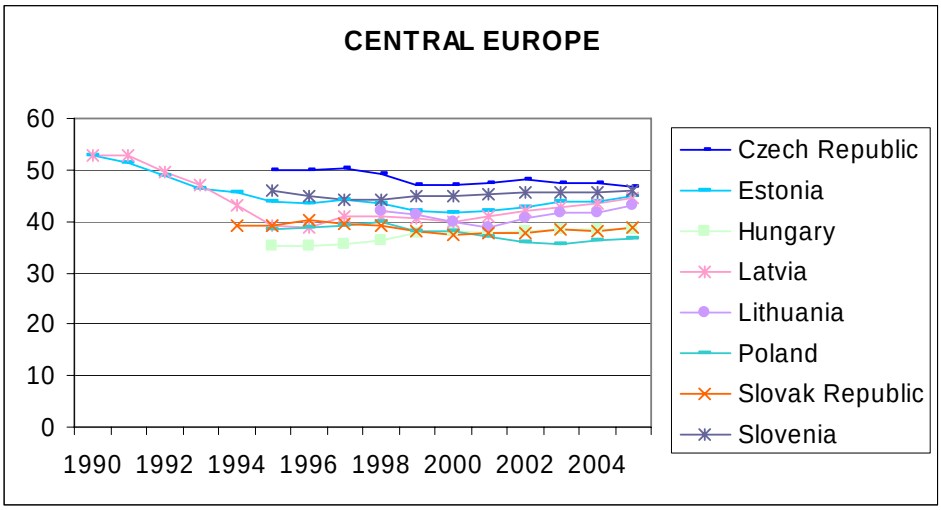
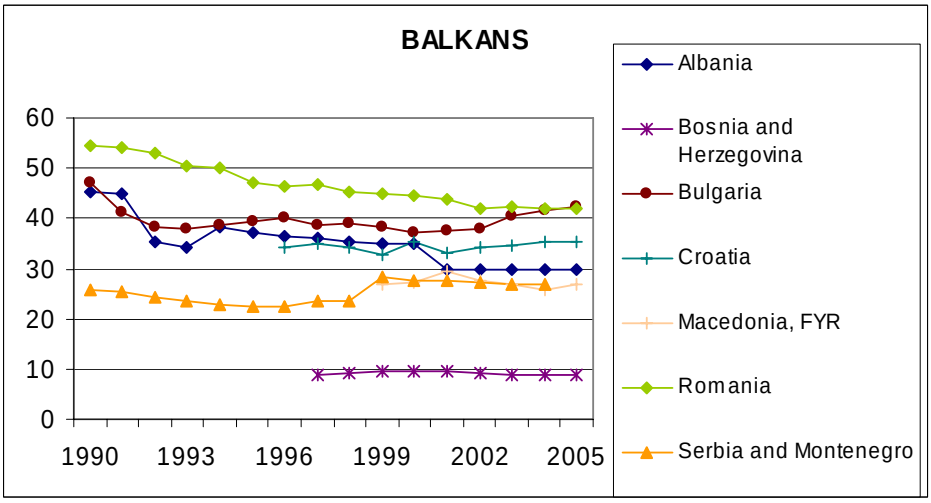


Figure 8–Employment/Population

(%)





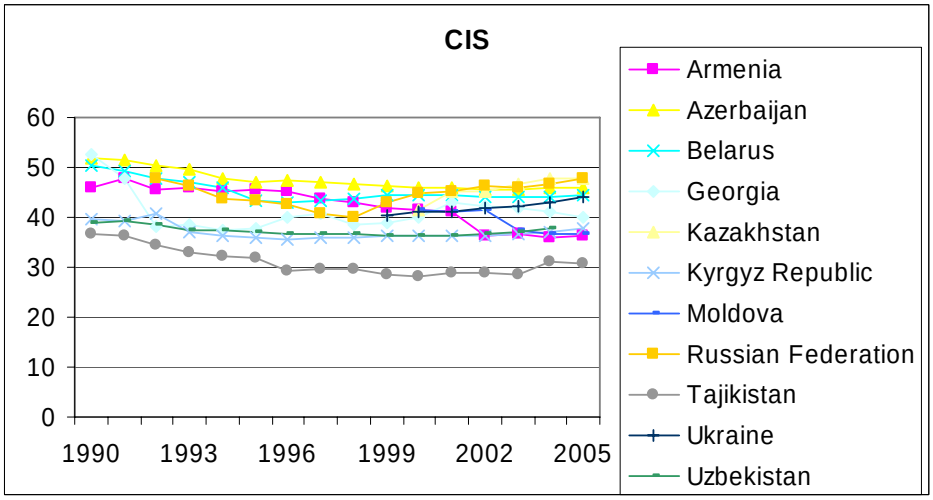
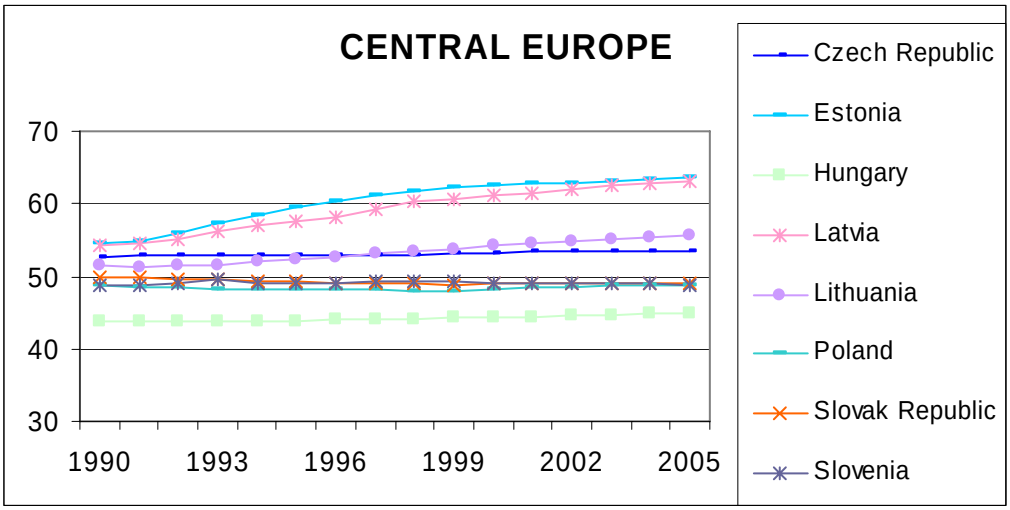
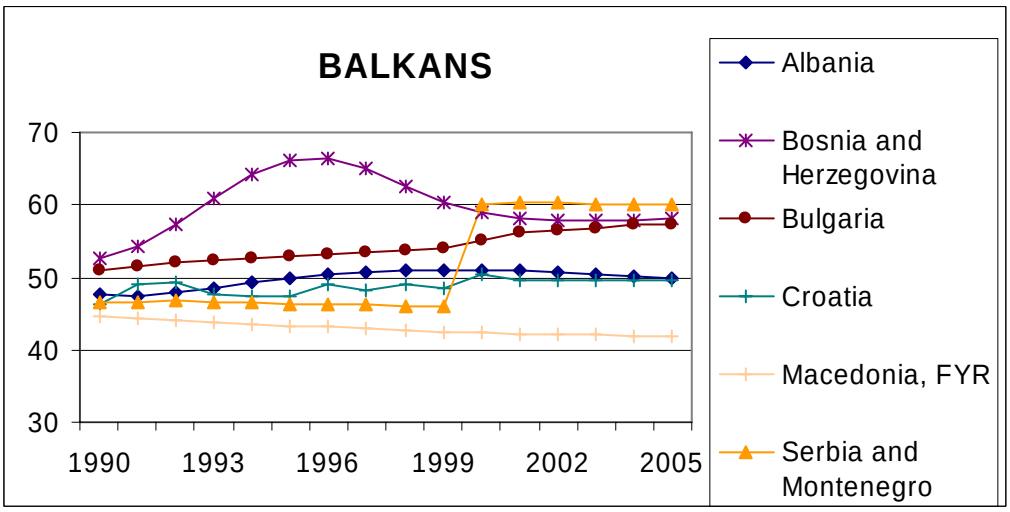


Figure 9–Employment/Labor Force

(%)





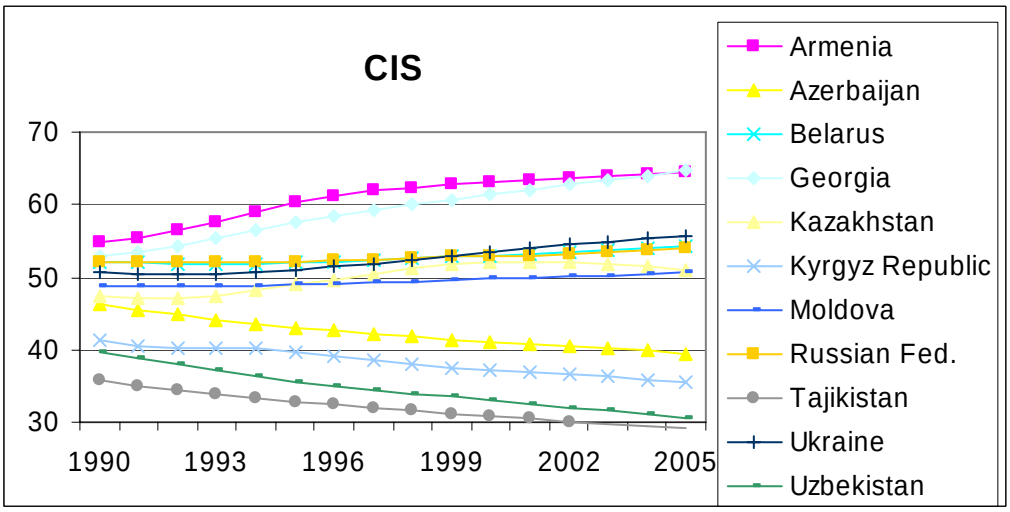
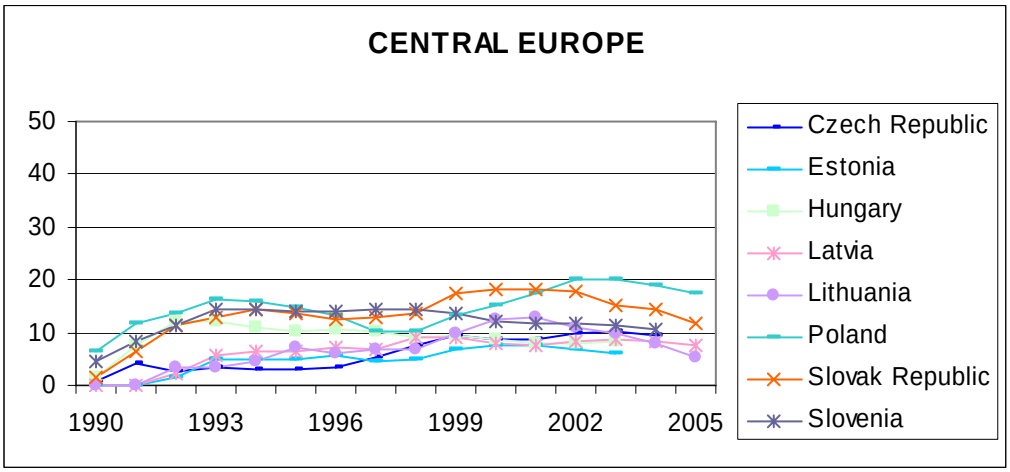
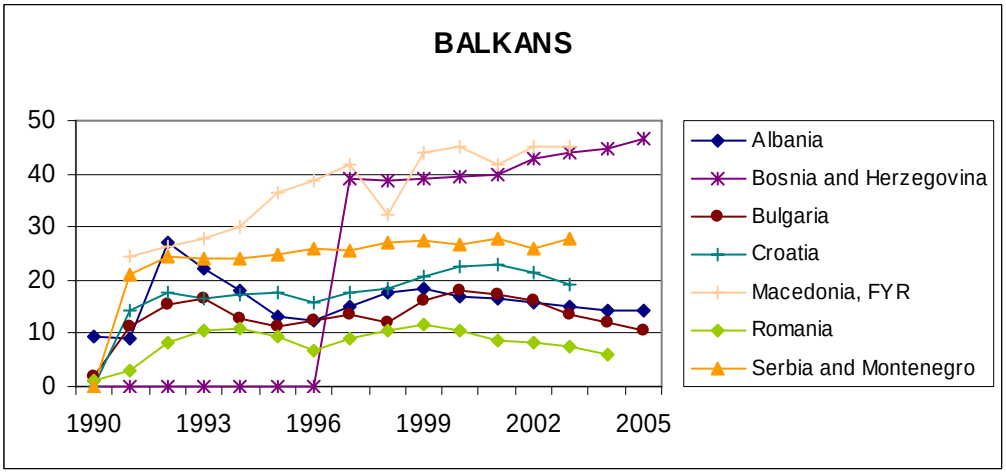


Figure 10–Registered Unemployment

(%)





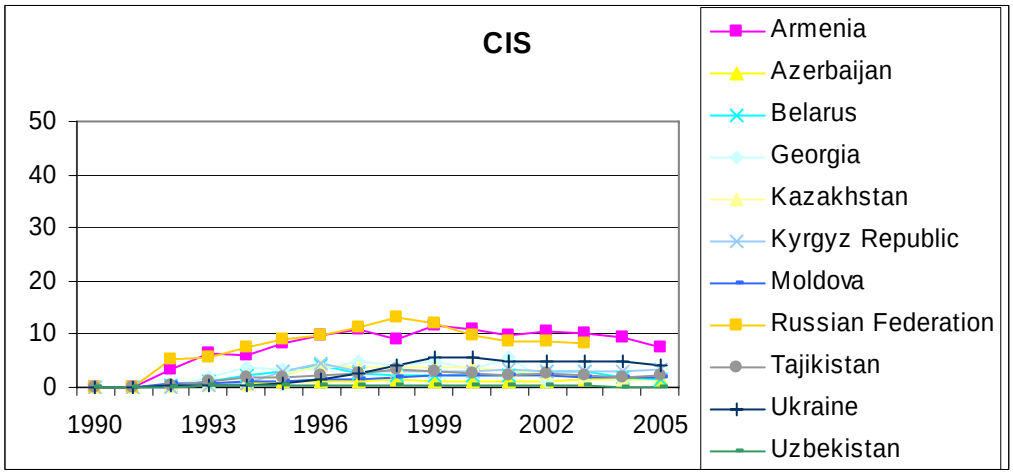


Figure 11–The Gray Economy as % of GNP and the Registered Unemployment Rate

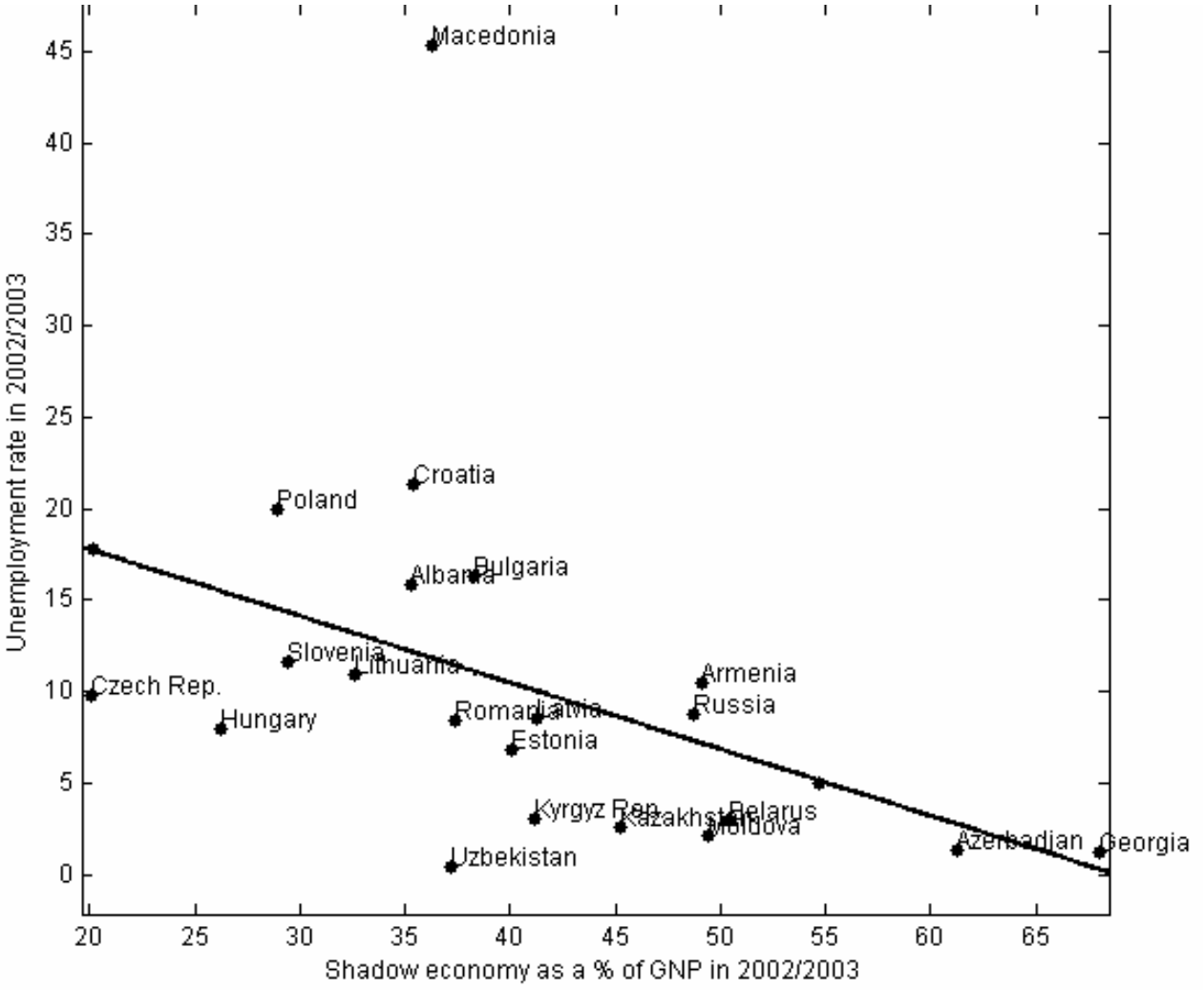


Figure 12–Unemployment: Registered and Labor Force Survey Rates

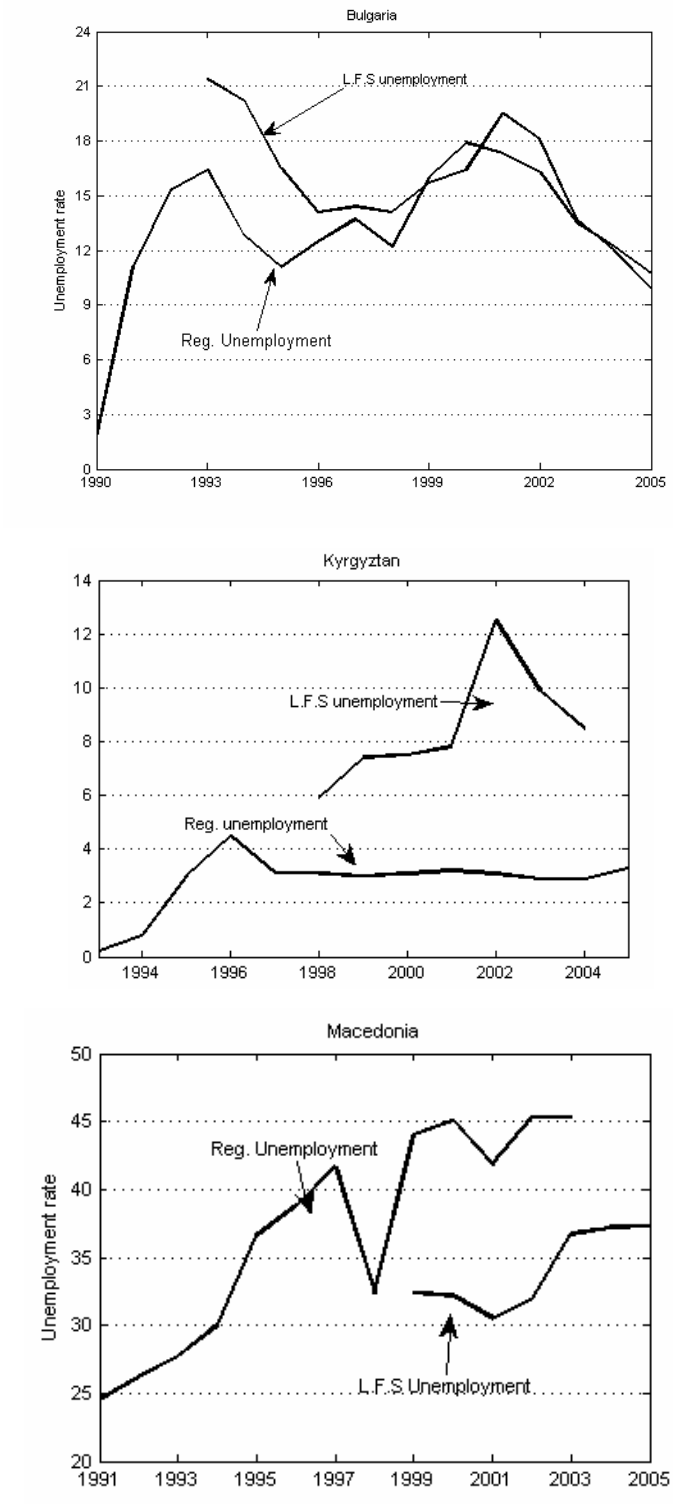
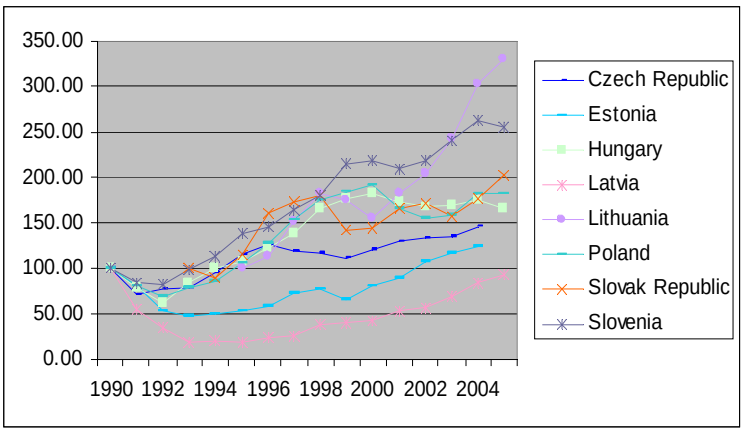


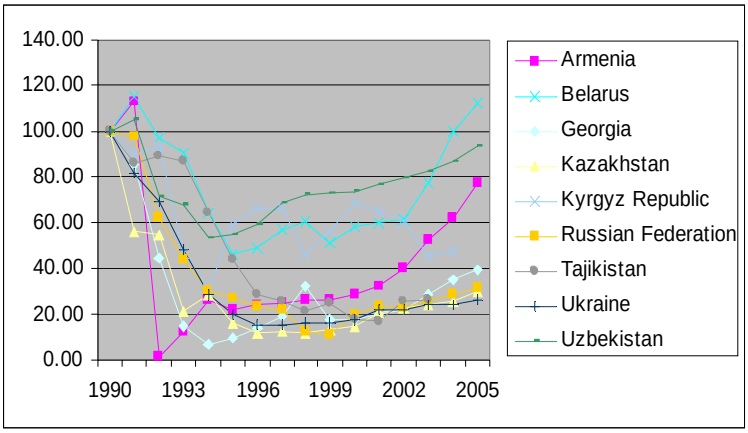
Figure 13–Index of Gross Fixed Capital Formation

Constant 2000 US $ (1990 = 100)

CENTRAL EUROPE



BALKANS



CIS

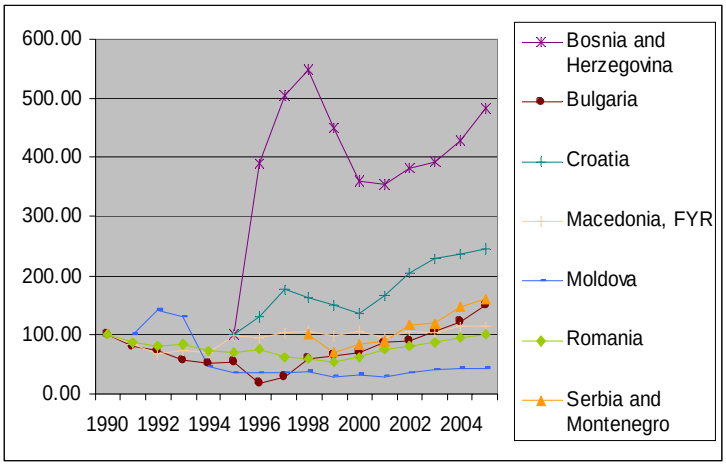


Figure 14–Reported Barriers to Growth by Country

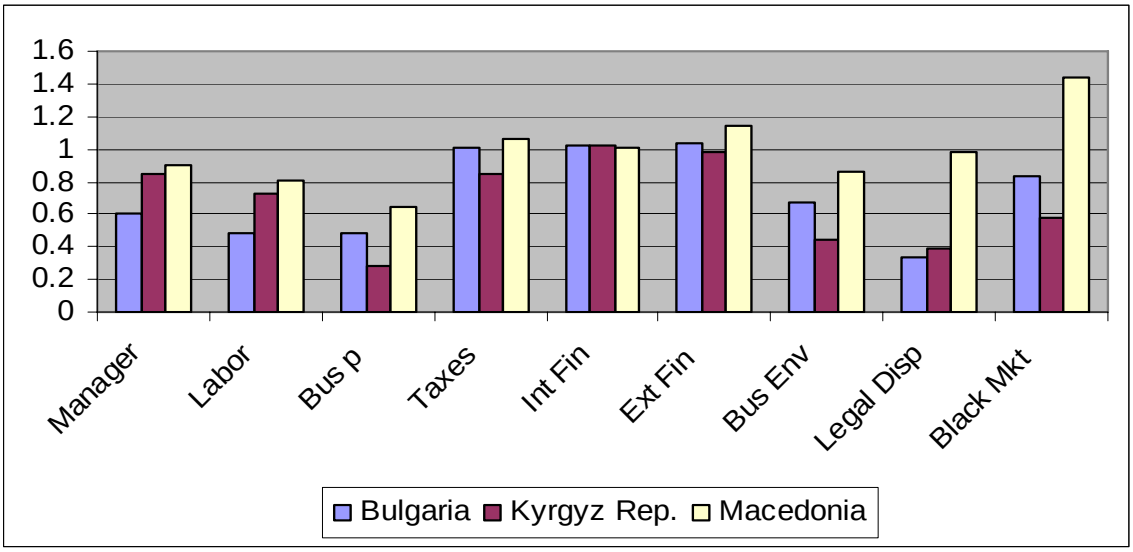


Figure 15–Per capita GDP in Bulgaria, Kyrgyz Republic, and Macedonia

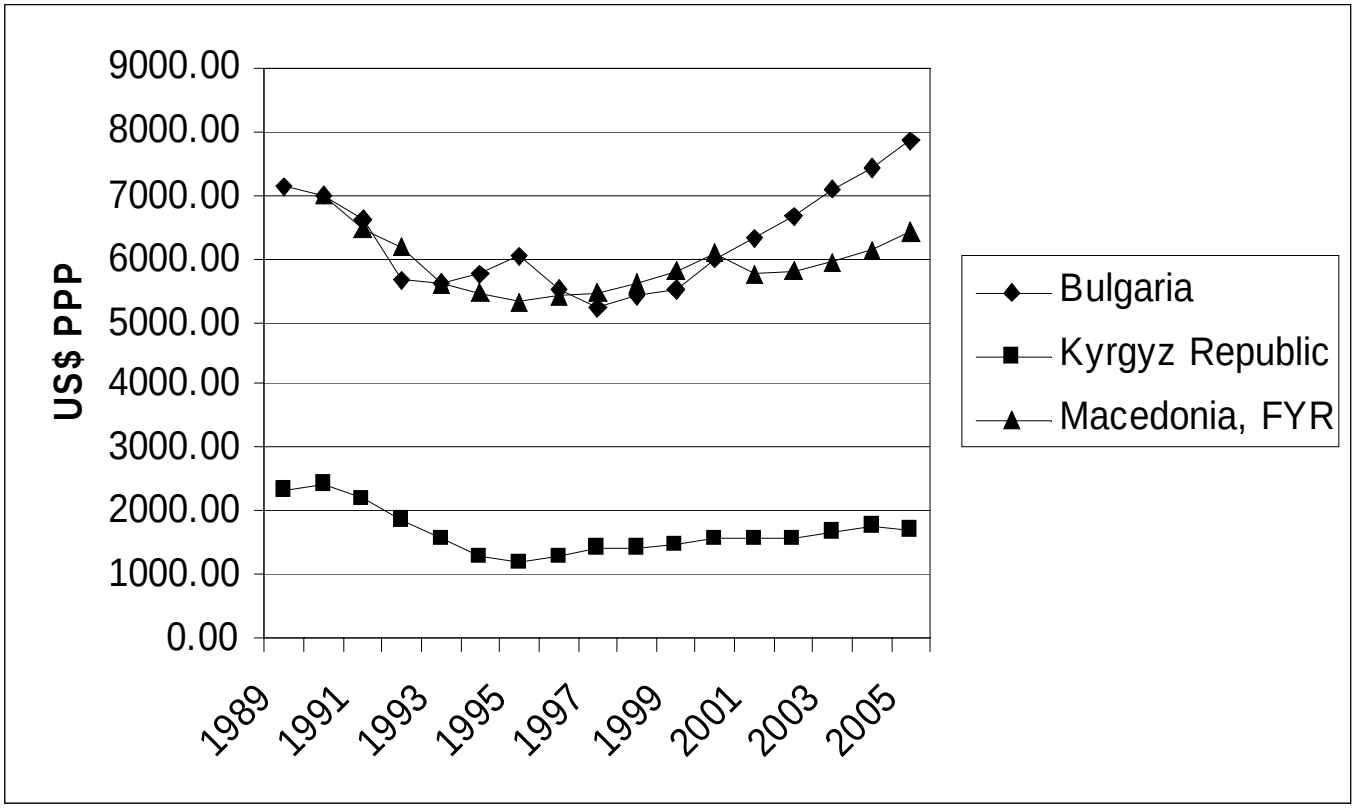


Table 4–Size of Shadow Economy

% GNP 2002/3

Czech Republic	20.1	**Average for:**	
Slovak Republic	20.2	**Transition Economies**	40.1
Hungary	26.2	**21 Central and South American Countries**	43.4
Poland	28.9	**28 Asian Countries**	30.4
Slovenia	29.4	**21 OECD Countries**	16.3
Lithuania	32.6		
Albania	35.3		
Croatia	35.4		
Macedonia	36.3		
Uzbekistan	37.2		
Romania	37.4		
Bulgaria	38.3		
Estonia	40.1		
Kyrgyz Republic	41.2		
Latvia	41.3		
Kazakhstan	45.2		
Russia	48.7		
Armenia	49.1		
Moldova	49.4		
Belarus	50.4		
Ukraine	54.7		
Azerbaijan	61.3		
Georgia	68.0		

Source: Schneider, F., "The size of shadow economies of Turkey and other countries from 1999 to 2004". In C. C. Aktan (ed.) ***Economics in a Changing World***. Izmir: Yasar University, 2005.

Table 5–Sectoral Shares of Employment in Selected Transition Economies

Country	1991	2001
	Agriculture	
Czech Rep	8.6	4.7
Estonia	18.9	6.8
Hungary	17.9	6.1
Poland	25.4	18.8
Slovakia	12.7	6.1
Slovenia	8.2	5.1
Russia	13.9	6.7
12 rich EU countries	**5.2**	**3.5**
	Industry	
Czech Rep	31.5	27.6
Estonia	25.0	23.0
Hungary	26.1	24.4
Poland	24.7	20.1
Slovakia	26.9	25.9
Slovenia	39.0	28.9
Russia	26.4	28.6
12 rich EU countries	**21.2**	**17.9**
	Services	
Czech Rep	24.7	31.9
Estonia	24.4	34.9
Hungary	28.5	33.6
Poland	19.0	28.8
Slovakia	26.2	30.4
Slovenia	26.9	33.2
Russia	25.3	28.6
12 rich EU countries	**33.1**	**37.0**

Source: European Union

Table 6–Sectoral Shares of Employment in CIS Countries

Country	Agriculture		Industry		Services	
	1991	2003	1991	2003	1991	2003
Armenia	23.3	[a]**44.4**	27.4	[a]**14.1**	36.2	[a]**37.2**
Azerbaijan	31.8	40.0	22.3	11.5	32.2	48.4
Belarus	21.1	[c]**21.2**	37.3	[c]**34.9**	36.6	[c]**40.0**
Georgia	[e]**48.5**	54.9	[e]**10.3**	8.4	[e]**41.1**	36.6
Kazakhstan	22.7	35.3	33.5	17.0	42.3	47.8
Kyrgyz Republic	35.5	43.2	26.5	23.3	38.0	41.7
Moldova	[d]**48.9**	43.0	[h]**35.7**	36.1	[d]**37.5**	40.9
Russian Federation	14.2	10.0	39.8	31.3	45.7	58.7
Tajikistan	44.7	[b]**46.1**	23.1	[b]**17.4**	25.6	[b]**29.2**
Ukraine	[d]**20.5**	18.9	[d]**37.6**	38.3	[d]**47.6**	51.2
Uzbekistan	41.9	[a]**34.4**	22.5	[a]**20.3**	[i]**34.9**	[d]**35.2**

Source: WDI Data base

Notes:
a: 2000; b: 1997 c: 1994
d:1999 e:1998 f: 1992
g: 2001 h:2002 i: 1995

Table 7–SMEs' Shares of Employment in Selected Transition Economies

(% total employment)

	Total Economy	Manufacturing	Services
Estonia	22.8	11.5	34.2
Hungary	16.0	8.8	23.6
Latvia	24.7	26.9	24.2
Romania	12.9	4.2	31.6
Slovenia	13.4	5.1	26.0
Denmark	32.7	17.6	35.0
Portugal	32.2	18.9	42.9

Source: Bartelsman et al. (2004)

Note: Data are for the 1990s and cover firms with less than 20 employees.

Table 8–SMEs and SMEs per 1000 Population in 2000

	Number SMEs	SMEs per 1000 pop.
Albania	56,442	16.5
Bulgaria	224,221	27.6
Croatia	59,907	13.7
Czech Republic	876,990	85.1
Hungary	275,671	27.4
Macedonia	27,938	14.0
Moldova	18,898	5.2
Poland	1,762,982	45.6
Romania	306,073	13.6
Serbia	68,207	8.0
Slovak Republic	60,310	11.2

Source: Falcetti et al. (2003).

Note: SMEs are firms with less than 250 employees.

Table 9–Business Climate Indicators

(By country rank – top 3 countries in bold)

	Ease of Doing Business, 2006	**Growth Competitiveness Index, 2005**	**Capital Access, 2006**	**Perception of Corruption, 2006**
Lithuania	**16**	43	40	46
Estonia	**17**	**20**	**18**	**24**
Latvia	**24**	44	40	49
Armenia	34	79	68	93
Slovak Republic	36	41	48	49
Georgia	37	86		99
Romania	49	67	61	84
Czech Republic	52	**38**	**39**	46
Bulgaria	54	58	52	57
Slovenia	61	**32**	55	**28**
Kazakhstan	63	61		111
Hungary	66	39	**31**	**41**
Poland	75	51	38	61
Kyrgyz Republic	90	116		142
Macedonia	92	85	73	105
Russia	96	75	53	121
Azerbaijan	99	69		130
Moldova	103	82	78	79
Albania	120	100		111
Croatia	124	62	66	69
Ukraine	128	84	72	99
Belarus	129		89	
Tajikistan	133	104		142
Uzbekistan	147			

Sources: Ease of Doing Business: World Bank, ***Doing Business 2007: How to Reform***. Washington, World Bank, 2007. GCI : World Economic Forum. Capital Access: ***Capital Access Index 2006: Best Markets for Business Finance*** James R. Barth, Tong Li, Triphon Phumiwasana, and Glenn Yago December 2006. Corruption: Transparency International Perception of Corruption Index http://www.infoplease.com/ipa/A0781359.htm.

Table 10–FDI in Transition Economies

(Million US $)

	Stock of FDI - 2005	$ FDI/person
Albania	1,680	469
Armenia	1,225	412
Azerbaijan	13,876	1,743
Belarus	2,383	232
Bosnia and Herzegovina	2,076	461
Bulgaria	12,516	1,695
Croatia	1,695	377
Czech Republic	59,459	5,809
Estonia	12,274	9,268
Georgia	2,320	498
Hungary	61,221	6,134
Kazakhstan	25,152	1,651
Kyrgyz Republic	522	100
Latvia	4,783	2,103
Lithuania	6,461	1,802
Macedonia, FYR	1,880	917
Moldova	1,129	253
Poland	85,605	2,221
Romania	23,818	1,068
Russian Federation	132,491	927
Serbia and Montenegro	5,428	578
Slovak Republic	15,358	2,823
Slovenia	7,569	3,765
Tajikistan	522	56
Turkmenistan	1,360	270
Ukraine	17,209	368
Uzbekistan	964	35

Source: UN. World Investment Report (2006).

Table 11–Definition of variables

Variable	Definition
gemp	Growth of employment = y_t/y_t_1, data from 1991 to 2007. We exclude the year of establishment or last change of ownership
	Firm and Owner Characteristics
size	Firm size measured by employment
p_t	Ratio of part-time employees to full time employees in year t
sector	Sector = industry and/or services with agriculture as the agriculture is the base
exports	1 if exports more than 50% of production, 0 otherwise
owner_ed	1 if the owner has higher degree, 0 otherwise
employee_ed	As above but for employees
foreign	1 if at least 1 major partner/owner is reported as being a foreigner
age	Number of years firm in existence in year t
union	1 if at least 50% of employees are members of a union
	Economic Environment
gdp	gdp growth = log(gdp_t)-log(gdp_t-1), data for 2006 and 2007 is missing
	Environmental Barriers to Growth
mgrskill	manager skill – rated from 0 = easy to find managerial skills for the firm to 2 = finding managerial skills very difficult
laborav	labor force availability - 0= easy to obtain appropriate labor skills, to 2 = finding workers with appropriate skills very difficult
buspremise	obtaining business premises–0=easy to 2 = very difficult
intfin	internal finance – 0 = could finance firm's needs internally to 2 = lack of internal finance a serious barrier to growth
extfin	external finance – 0= easy to obtain eternal financing to 2 = very difficult to obtain outside financing
inputs	service inputs – 0= easy to obtain business services to 2 = difficult to obtain business services
taxes	taxes a burden on growth – 0= not a burden to 2 = serious burden
blkmkt	gray market firms - 0 = completion from gray economy not serious impediment to 2 = very serious impediment
busenv	business environment- registration and regulation–0 = not a barrier to firm performance to 2 = serious barrier
legaldisp	legal disputes –0 = not a serious barrier to firm performance to 2= serious barrier
	External Assistance to the Firm
T	=dummy variable for receiving any USAID assistance
T1	=dummy variable for receiving non-financial assistance from USAID
T2	=dummy variable for receiving financial assistance from USAID
T3	=dummy variable for receiving USAID or other assistance subsequent to the first receipt of USAID assistance

Table 12–Sample Regression for Bulgaria: Two Year Growth Effect

Variable	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
T1	.0176936	.0513058	0.34	0.731	-.0835849	.1189721
T2	.1239399	.0947602	1.31	0.193	-.0631184	.3109982
T3	.0209547	.0974989	0.21	0.830	-.1715097	.2134191
industry	-.0670473	.070306	-0.95	0.342	-.2058324	.0717379
services	-.0060785	.0712277	-0.09	0.932	-.1466832	.1345262
ownership	.1001867	.0879645	1.14	0.256	-.0734567	.2738301
owner_ed	.1091897	.0652641	1.67	0.096	-.0196426	.238022
employee_ed	.0278305	.0553618	0.50	0.616	-.0814547	.1371156
age	-.0030187	.0017325	-1.74	0.083	-.0064387	.0004012
mgrskill	.0163879	.0295066	0.56	0.579	-.0418587	.0746344
laborav	-.0012792	.0329582	-0.04	0.969	-.0663393	.0637809
buspremise	.1280625	.0311974	4.10	0.000	.0664782	.1896467
inputs	-.0480197	.0263206	-1.82	0.070	-.099977	.0039375
taxes	.0148968	.0296316	0.50	0.616	-.0435965	.0733901
intfin	-.0255242	.0271383	-0.94	0.348	-.0790957	.0280473
extfin	.0018122	.0279345	0.06	0.948	-.0533309	.0569553
busenv	.0209697	.02765	0.76	0.449	-.033612	.0755513
legaldisp	-.0708012	.0349124	-2.03	0.044	-.1397188	-.0018835
blkmkt	.0027177	.0228221	0.12	0.905	-.0423335	.0477689
size	.0026011	.0065282	0.40	0.691	-.0102857	.0154879
ebrd1	-.1166699	.160454	-0.73	0.468	-.4334089	.200069
ebrd2	.1422918	.1906505	0.75	0.456	-.2340554	.5186391
gdp	.3814574	.5838423	0.65	0.514	-.7710571	1.533972
_cons	1.052135	.2848954	3.69	0.000	.4897465	1.614523

Table 13–Sample Regression for Macedonia: Two Year Growth Effect

Variable	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
T1	.176433	.1443847	1.22	0.229	-.114947	.467813
T2	-.1953404	.3361535	-0.58	0.564	-.8737257	.4830449
T3	-.1062014	.2272539	-0.47	0.643	-.5648184	.3524156
industry	(dropped)					
services	-.0822703	.2486881	-0.33	0.742	-.5841433	.4196026
ownership	(dropped)					
owner_ed	.1886776	.2143859	0.88	0.384	-.2439706	.6213259
employee_ed	-.0789525	.1995506	-0.40	0.694	-.4816619	.3237569
age	-.0178819	.0102885	-1.74	0.090	-.038645	.0028812
mgrskill	-.0087403	.063908	-0.14	0.892	-.1377119	.1202312
laborav	-.0925965	.0913626	-1.01	0.317	-.2769737	.0917806
buspremise	-.2422237	.211694	-1.14	0.259	-.6694394	.184992
inputs	-.1158634	.1797153	-0.64	0.523	-.4785435	.2468168
taxes	.0995353	.2262401	0.44	0.662	-.3570357	.5561063
intfin	.0146161	.1994081	0.07	0.942	-.3878057	.4170379
extfin	.2006148	.4046601	0.50	0.623	-.6160223	1.017252
busenv	-.1797625	.3991101	-0.45	0.655	-.9851992	.6256743
legaldisp	-.0222526	.1328442	-0.17	0.868	-.290343	.2458378
blkmkt	-.0080646	.1220301	-0.07	0.948	-.2543313	.2382021
pt	-.0204961	.0327792	-0.63	0.535	-.0866473	.045655
size	.0336127	.0688282	0.49	0.628	-.1052883	.1725137
ebrd1	-.5569014	1.186622	-0.47	0.641	-2.951602	1.837799
ebrd2	-.4305693	.9903838	-0.43	0.666	-2.429245	1.568106
gdp	2.100797	2.942844	0.71	0.479	-3.838102	8.039696
exports	-.1014634	.1919814	-0.53	0.600	-.4888974	.2859707
union	.0624814	.3164331	0.20	0.844	-.5761064	.7010692
foreign	.4290926	.2860088	1.50	0.141	-.1480965	1.006282
_cons	4.25168	3.568069	1.19	0.240	-2.948974	11.45234

Table 14–USAID Programs With at Least Three Contacts in Sample

BULGARIA – 1034 contacts

Acronym	Program name	Predominant Assistance Type
	Ustoi Microfinance	Financial Assistance
BACB	Bulgarian-American Credit Bank	Financial Assistance
BAEF	Bulgarian-American Enterprise Fund	Financial Assistance
EGIP	Economic Growth and Investment Program	Technical Assistance
EMED	Entrepreneurial Management and Executive Development Program	Technical Assistance
FLAG	Firm-Level Assistance Group	Technical Assistance
PSP	Private Sector Program	Technical Assistance
PTP	Participant Training Program	Technical Assistance
SEAF	Small Enterprises Assistance Fund	Financial Assistance
START	Strategic Technical Assistance for Results with Training Program	Technical Assistance

KYRGYZSTAN – 939 contacts

Acronym	Program name	Predominant Assistance Type
CAAEF	Central Asian-American Enterprise Find	Financial Assistance
FINCA KG	Foundation for International Community Assistance	Financial Assistance
FPI	Financial Protection Initiative	Institution Building
GTD	Global Training for Development	Technical Assistance
PTP	Participant Training Program	Technical Assistance

MACEDONIA – 786 contacts

Acronym	Program name	Predominant Assistance Type
EMED	Entrepreneurial Management and Executive Development Program	Technical Assistance
MEF	Macedonian Equity Fund	Financial Assistance
FORECAST	FORECAST	Technical Assistance
MER	Macedonia Enterprise Restructuring Program	Technical Assistance
MPA	Macedonian Privatization Assistance	Technical Assistance
MAMA / LOL	MAMA Program / Seal of Quality / Agribusiness Assistance Program	Technical Assistance
MCA	Macedonia Competitiveness Activity	Technical Assistance
Moznosti Makedonija	Moznosti Makedonija	Financial Assistance
PTP	Participant Training Program	Technical Assistance
RFI	Rural Financial Institutions Program	Technical Assistance
SEAF	Small Enterprises Assistance Fund	Financial Assistance
SME	Macedonian SME Fund	Financial Assistance
START	Strategic Technical Assistance for Results with Training Program	Technical Assistance

Table 15–Summary Results on the Effect of USAID Programs on Job Growth[31]

Coefficient Significant for:	Bulgaria	Macedonia
Long Term Effect of:		
All USAID Assistance	**No**	**Yes**
Technical Assistance	**No**	**Yes**
Financial Assistance	**No**	**No**
Post USAID Assistance	**No**	**No**
Short Term Effect of:		
All USAID Assistance	**Yes**	**Yes**
Technical Assistance	**Yes**	**Yes**
Financial Assistance	**No**	**No**
Post USAID Assistance	**No**	**No**

[31] Detailed results in Appendix D.

APPENDIX A: REVIEW OF THE LITERATURE ON LABOR MARKETS IN THE TRANSITION ECONOMIES

There is an extensive literature on the transition and on its effects on employment and incomes in the region. Some of the literature has been produced by scholars, some by international organizations such as the IMF, the World Bank, the OECD, and the EBRD. In our survey we stress works than have an analytic rather than a descriptive character, and we also try to note the strengths and limitations of individual articles as well as of the broad conclusions that can be drawn from the literature.

Because output, employment, and unemployment are usually discussed in terms of aggregates relating to individual countries, we begin by examining the macroeconomic trends evident during the transition, discuss some of the issues pertaining to the data on unemployment, and draw distinctions between the experiences of different countries. In the second part of this section we examine microeconomic factors that shape employment and labor market performance. In the third part of this section we draw conclusions regarding the feasibility and limits of employment-creation policies in these countries.

Macroeconomic Trends, Output and their Causes

The Transition Recession and Recovery. The period since 1989 has seen major changes in output and employment in the countries of Eastern Europe and the former Soviet Union (FSU). Initially, all these countries saw a large decline in output as measured by GDP and *per capita* GDP. In some countries, but not others,[32] this was followed by a recovery that raised GDP to above 1989 or 1990 levels. The true extent of the decline in economic activity is the subject of considerable controversy (Campos and Coricelli, 2002), both because there may be large errors in the measurement of output (Johnson *et al.*, 1997) and because of problems in the proper measurement of prices in a period of: a) high inflation; b) large relative price changes; c) quality changes; and d) changes in the structure of economic activity (Filer and Hanousek, 2000). Nevertheless, for the purposes of this survey, we assume that the large inter-country differences in performance, as well as the general path of output and inflation, can be viewed as reasonable approximations of events in the transition economies.

Figure 4, which reports the real *per capita* GDP of most of the countries in the region, provides a clear view of aggregate output's path through the "transition recession followed by recovery" that characterized virtually all countries in the region.[33] In the countries that joined the EU in 2004, labeled as the Central European group in this study, *per capita* GDP has exceeded 1989 levels since the mid-1990s. It is important to bear in mind that, leaving distributional issues aside, this performance implies a significant improvement in living standards. In the Balkan countries, with the exception of Croatia, whose growth has been quite dynamic, GDP growth has been less robust. Here too, however, most countries have attained 1989 *per capita* levels of GDP, even if they have exceeded them by the margin seen in the Central European group of countries. Many of the countries of the former Soviet Union (other than the Baltic States, which we include in the Central Europe group), countries we will call the CIS countries in this study, have failed to reach the 1989 level of GDP. This is true even of CIS countries exhibiting robust growth from the late 1990s onward. More troubling, there is a group of low-income countries that have experienced serious declines in *per capita* GDP. Such performance, however it translates into labor market performance, is a sign of a serious decline in welfare. Indeed, for all of the countries under consideration, taking the entire trajectory of the transition experience into account suggests that no

[32] See Figure 2.

[33] By focusing on *per capita* GDP we take into account changes in the size of the population. The grouping of countries is somewhat arbitrary, and is based loosely on similarities in economic performance, geographic proximity, and past or current political ties.

country's population has been spared some economic hardship as a result of the transition. Implementing successful measures to improve employment opportunities and to provide for a better functioning of the labor market should therefore be an important policy concern.

There is considerable controversy about the causes of the decline in output at the onset of transition. Some observers blamed a sharp reduction in aggregate demand that included a sharp decline in central government spending on investment and defense, and the collapse of CMEA trade and falling real incomes and wealth as the result of inflation brought about by price liberalization.[34] Other observers blamed supply-side dislocations, such as the discoordination of production brought about by the end of central planning (Blanchard, 1997; Blanchard and Kremer, 1997), large relative price changes, and the absence of institutions needed to make markets function effectively (Murrell and Wang, 1993). A discussion of these competing positions can be useful in framing prescriptions for dealing with the unemployment caused by transition.

If the output decline had been primarily demand driven, then expansionary fiscal and monetary polices to stimulate aggregate demand would have been all that was necessary to increase demand and revive growth. Keynesian policies to stimulate spending by means of government expenditures alone, however, appear not to have been effective. Some countries sought to shelter firms and workers from the effects of large price changes and the need to undertake rapid restructuring and privatization by providing government subsidies and other supports. In the long run, these economies found themselves in a low-growth, high-unemployment equilibrium in which neither the emergence of markets and market-supporting institutions nor effective response by firms to changes in relative prices were much in evidence. However, it is also true that the countries with robust recoveries were characterized by strong growth of consumer and investment outlays, as well as by robust export growth. This suggests that a demand stimulus was a necessary but not sufficient condition for the resumption of economic growth. The fact that the faster-growing countries were also characterized by better functioning markets, higher levels of private ownership of businesses, and the development of market-supporting institutions, suggests that addressing supply-side factors through economic reform was also necessary for robust economic growth.

Less important than the fate of any individual country is the division that Figure 5 reveals between countries with higher *per capita* levels of income that have, in general, managed to grow at rates that allowed them to surpass their pre-transition *per capita* GDP by respectable amounts at the end of our sample period, and lower *per capita* income countries, which have grown more slowly or have failed to return to their pre-transition levels of *per capita* income. It would be simplistic to attribute these differences solely to countries' level of development. Location, the ability to adopt appropriate reforms, trade dependence, economic structure, and regional conflicts all seem to have played an important role in the economic trajectory of these countries, and *per capita* income is closely correlated to these other factors as well.

For example, a number of studies of transition economies' reform performance and growth (Aslund *et al.*, 1996, deMelo and Gelb, 1996, 1997, Fischer *et al*., 1996) demonstrated a strong relationship between pro-market reforms and economic performance. The latter was usually measured by the growth of aggregate output, either averaged over the period since the start of transition or in the terminal year of the study. The key explanatory variable was an index of liberalization based on measures of the liberalization of internal prices and markets, of the foreign trade and exchange rate regimes, and of progress with privatization, etc., compiled by the European Bank for Reconstruction and Development (EBRD). In most cases, the index was cumulated from the start of the reform period on the assumption that the effects of reform would increase over time, leading to the concept of a cumulative liberalization index (CLI).

In these studies, the economic growth of the transition countries was determined by the CLI and by

[34] See, for example, Lipton and Sachs (1990), Winiecki (1991), Brada and King (1992).

additional variables that captured unique exogenous forces such as wars; country-specific starting conditions, such as the legacy of central planning; and of specific policy choices, such as the use of a fixed exchange rate. Despite differences in the explanatory variables and specifications used, these exercises yielded remarkably similar results: CLI was statistically significant with a positive sign. This means that faster and more extensive liberalization and reform were associated with faster economic recovery and with an earlier and more robust resumption of output growth. These results suggest that further liberalization should be an important component of policies designed to fight current unemployment in transition economies because liberalization will promote economic growth and thus lead to an increase in employment.

Like many purported lessons in economics, this conclusion must be treated with some caution. In part, this is because other research suggests that a large proportion of the differences in the economic performance of the transition countries can be explained by variables other than the intensity of reforms. Krueger and Ciolko (1998) and Stuart and Panayotopoulos (1999) show that, once the differences in starting conditions of the transition economies are taken into account, the CLI loses its significance in explaining economic performance. Krueger and Ciolko, for example, show that the inclusion of dummy variables for regional tensions, for the successor states of the Soviet Union, and for measures of openness to international trade and the level of development *prior* to transition explain as much of the post-transition performance as does the CLI. Moreover, in the presence of their explanatory variables, the CLI is not a statistically significant determinant of economic performance.[35] That is, wealthier countries that did not face regional tensions performed better than poor countries facing political instability. As one economist has only half-jokingly pointed out, much of the difference in the growth performance of the transition economies can be explained by countries' distance from Vienna or Berlin. This over-determination of transition economy growth suggests that economic performance in the course of transition is jointly determined by economic, policy, cultural, social, and historical factors. While the value of reform for transition success is compelling, individual country characteristics and circumstances also play an important role.

A second problem in drawing policy conclusions from these results is that the findings described above may apply only early in the transition period. The studies finding a role for the CLI or other measures of liberalization were published in the mid-1990s and largely reflect very early transition performance. Polanec (2000) found that the manner and extent to which transition countries implemented liberalization, privatization, and reforms explained many aspects of their economic performance in the early years of the transition. Economic variables used to explain similar measures of performance in non-transition economies had little explanatory power. As one moves to the late 1990s and beyond, the influence of transition measures on performance ceased to be important and the economic and policy variables used to explain performance in non-transition economies came to the fore. This implies that after fifteen or more years of transition, the liberalization strategies measured by the CLI and other indices of reform have lost their ability to influence economic performance, and that policies thought to improve economic performance in non-transition economies now have similar effects in "post-transition" economies.

The Nexus between Economic Growth and the Labor Market

Although aggregate output in the transition countries has followed a cyclical path that looks like the recessions or depressions found in market economies, it would be inappropriate to conclude that developments in the region can be conceptualized solely in terms of business cycles. While business cycles may have played some role, it is important to remember that the region was in the process of

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[35] This entire literature is now undergoing a serious methodological reevaluation that may change these conclusions. See Babetskii and Campos, 2007.

transitioning from one economic system to another at the same time that it engaged in a major restructuring of economic activities. Analogies to the growth-employment relationship observed over the business cycle in market economies may be an inappropriate framework for analyzing the dynamics of economic aggregates during the transition.

Comparing Figure 4 and Figure 5 shows that the time path of employment in the transition economies was most closely related to the rate of growth of aggregate output at the outset, when both declined. On the other hand, the response of employment to the resumption of output growth is muted at best, giving rise to the characterization of the late transition experience as a "jobless recovery." As Figure 5 shows, the employment in the Central European group of countries is 10-20 percent less that it was in 1989, even though aggregate output is now considerably higher. In the Balkan countries, the job loss is even greater, with most countries now employing 60 to 80 percent of the workers who had jobs in 1989. Among the FSU countries, some, such as Uzbekistan, Azerbaijan, Belarus and Tajikistan, have maintained or even increased the number employed, despite their rather undistinguished GDP growth performance.[36] The other FSU countries all show employment decreases of roughly 15 to 35 percent.

Economic growth should increase the demand for labor, but the extent to which it will do so depends on factors such as the wage rate and the extent and form of privatization; the demographic composition of the work force; structural changes in the economy that accompany growth; as well as social and cultural characteristics of the country. We examine this relationship by calculating the elasticity of employment with respect to GDP (% change in employment / % change in GDP).[37] In Figure 6, we plot each country's elasticity calculated separately for periods when GDP was falling and periods when it was rising. We calculate two sets of elasticities since different firm behaviors are involved in shedding labor as output falls and rehiring workers as output rises. Most countries display a positive elasticity for periods when GDP was falling (vertical axis), suggesting that declines in output were almost always associated with a loss of jobs. Yet only half of the countries in our sample have elasticity greater than zero when GDP increases. In countries with employment elasticity less than zero, employment continued to fall even as GDP grew. Even in countries where the job count did grow as GDP expanded, employment rose more slowly than GDP. This is reflected by elasticities of less than one.

As Figure 7 shows, wages in high income transition countries grew steadily. Among the Balkan countries, Croatia and Bosnia experienced noteworthy gains in wages (though for different reasons), while wages stagnated in other countries. Some FSU countries, such as the Russian Federation, Kazakhstan, and Belarus, saw wages increase more than was the case in the lower wage countries.

Because real wages in many transition countries fell during the output decline, then increased as GDP growth resumed, it is natural to ask how wages affected the reaction of employment to changes in output. Did they cushion the job shedding of the early recession, then choke off the employment growth that might have come with recovery-era output growth? A study of firm-level data for a period covering the pre-transition and early transition years (Basu, Estrin, Svejnar, 2000) in the Czech Republic, Hungary, Poland, Russia, and Slovakia found that the elasticity of demand for labor with respect to sales began close to zero in all countries, then increased in absolute value everywhere except Russia. This implies that employment became more responsive to sales volume over time,[38] but that wages did not play much of a

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[36] In the view of most observers, this is the result of the failure to implement needed reforms and restructuring, as evidenced by stagnant wages and per capita GDP (see Figure 4 and Figure 7), rather than the outcome of better economic performance.

[37] These are not “true” elasticities because other determinants of employment, most notably wages, are not held constant.

[38] The elasticities calculated in this study were similar to the ones reported in Figure 4, and, given the sample period covered by the study, such estimates reflected mainly labor shedding behavior rather than periods of sustained sales and employment growth.

role in shaping demand for labor. Studies based on more recent data reach similar conclusions.

Izyumov and Vahaly (2003) specified a multivariate relationship between output, wages, and employment in the transition economies, and found the responsiveness of employment to output growth to be lower in transition economies than in the European Union countries over the period 1995-2000. Using 1999-2004 data for sectors of industry in the transition countries that joined the EU, plus Bulgaria and Romania, Onaran (2006), estimating static and dynamic labor demand functions with output and wages as determinants of employment disaggregated by sectors of industry, found output growth to have a positive effect on employment even though the elasticity was less than one in all cases.[39] Wage growth on the other hand, appeared to have no effect or at best a weak effect on employment, implying that wage growth was not a serious barrier to employment growth. Since the countries studied by Onaran were the ones with the highest wage growth in the course of the recovery from the transition recession, it is likely that wage growth was also not a barrier to employment growth in the countries that were not included in his sample. These low elasticities of employment with respect to output may be signs of labor market rigidities, but they can also be the evidence of a long-run adjustment process that involves changing both the level of employment and the capital stock in various sectors toward a new equilibrium.

Figure 6 shows that there is also a relationship between the magnitude of employment-GDP elasticity when the GDP is falling and the elasticity when GDP is rising. The more positive and larger the elasticity when GDP is falling (the larger the job losses that accompanied falling output), the smaller the elasticity (and hence the job growth) when output increased. That is, a certain proportion of jobs, once destroyed, disappeared forever.[40] These differences in the responsiveness of employment to growth show that country-specific factors are important in considering policies to promote increases in employment. In with positive countries elasticity, policies that stimulate aggregate economic growth will create jobs. In countries where the elasticity is low or negative, growth adds few or no employment opportunities in the short run. In these countries policymakers must, instead, attempt to increase the responsiveness of employment to economic growth, for example by implementing measures to promote, or at least not to penalize, part-time employment, self-employment, etc.

Employment and Unemployment in Transition

The Role of Starting Conditions. The decline in employment during the downturn in GDP and the subsequent failure of employment to recover its pre-transition levels when GDP recovered should be seen in the context of these countries' starting conditions. Under communism, strong forces existed to ensure that everyone able to do so worked. Partly this was due to Marxist economic theory. With labor the sole source of value, the greater the number employed, the greater the value of production. Moreover, the absence of unemployment in communist countries was seen as one of the more attractive features of socialism and a sign of the superiority of the socialist economy over market capitalism.[41] Finally, central planning provided strong incentives for overstaffing and labor hoarding to allow enterprise managers the flexibility to meet plan targets (Mickiewicz and Bell, 2000, Ch. 1). These forces led to significantly higher participation rates (the percentage of those in the working age groups who were actually employed) in the communist countries than were seen in market economies.[42] The result of these polices

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[39] Unfortunately, such studies often use data only from the more advanced East European transition economies, often the group that now belongs to the EU. Extrapolating these results to other transition countries should be done with some caution.

[40] This may reflect the chronic overstaffing and labor hording that existed in the centrally planned economy.

[41] Granick (1987) discusses these points in detail.

[42] While participation rates for men were only somewhat greater in communist countries than they were in comparable market economies, they were significantly higher for women, although women's participation ratios tended to show greater cross-country variance, reflecting national cultural norms.

was extensive overstaffing in industrial firms and in agricultural units as well as in government agencies.[43]

Interpreting the decline in aggregate employment over the transition as a pathology resulting from a decline in the demand for labor by the private and public sectors may be incorrect. Some departures from the labor force may have been voluntary, and some of the decline in the employment may reflect the consequences of systemic change. The employment levels now observed, especially in the more successful transition economies, may reflect new patterns of behavior on the part of the labor force and employers rather than shortcomings of the labor market.

Seeking policies to restore the levels of employment achieved under communism or, put another way, seeing the decline in total employment in transition economies as a problem for economic policy to address, may be the wrong way to understand labor market developments in the region.[44] In transition, the equilibrium level of employment may be shifting from a level consistent with the conditions that existed under central planning to a level more appropriate to a market economy.

Concomitant with the excess demand for labor under communism was low labor turnover. It was difficult for firms to dismiss workers, and workers expected to remain at the same firm, and, indeed, at the same job in that firm, for their entire working life (Granick, 1989). Centrally set wages and a relatively flat wage structure meant that changing employers would bring few economic gains, while housing shortages made such shifts very costly for most workers. These habits continue to hamper labor force mobility and labor force adjustment even today.[45]

A second characteristic of the communist economy was a skewed output and employment structure (Gregory, 1970; Ofer, 1976; Balcerowicz, 2006). Industry and agriculture in the communist countries had shares of output and employment well above those of comparable market economies, while services accounted for disproportionately smaller shares of employment and output. Moreover, the communist countries were under-urbanized for their level of development. The transition to a market economy, then, required shifts of labor from agriculture and industry to services, and from rural to urban areas. In some countries, the shift toward services was also driven by the emergence of tourism and the off-shoring of "back office" work from more developed countries, activities that had been virtually impossible under communism. Impediments to these resource shifts would give rise to higher levels of unemployment; labor shed in industry and agriculture would experience difficulty in finding and moving to new jobs in services, even though jobs were there to be had. Moreover, sectors that lost market share would experience both an excess of labor as well as overcapacity in physical capital, further reducing their demand for labor. As a result, in transition economies, major structural changes in the composition of output, firm creation and destruction, the link between employment and housing, and rural-urban migration play a much greater role in labor market developments than they do in market economies.[46]

Counting the Jobless and the Unemployed. So far, our discussion of labor market outcomes has

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[43] See Bornstein (1978), Gregory and Collier (1988), Wiles (1972). Brada (1989) calculated that if underemployment in communist Czechoslovakia had been converted to open unemployment then in some years in the 1960s and 1970s the unemployment rate would have been over 10 percent.

[44] The Yugoslav economy did not have the same labor market institutions as did the centrally planned economies, but the labor-managed firms in Yugoslavia also tended to over employ workers. See, for example, Comisso (1979), Prasnikar *et al*. (1994).

[45] Boeri and Garibaldi (2006) provide evidence of significant regional mismatches in the supply of and demand for labor in several transition economies; also see OECD (2005).

[46] This is not to suggest that all transition economies require such shifts to the same extent. For example, in less developed countries, a natural reaction to the loss of employment in industry is a return to agriculture, where work on the family farm provides at least some measure of income. Thus providing for rural-urban migration may be a less-needed policy intervention.

focused on the number employed. Given the bias toward full-time work in transition countries, this means full-time jobs. However, the time path of the number of employed persons can give a misleading view of labor market developments. The number employed can change not only due to changing labor market conditions, but also due to changes in the size and the demographic characteristics of the population. A constant level of employment with a growing population presents a situation quite different from that of a labor market where employment remains constant while the population either shrinks in number or ages. The populations of many transition economies are graying, with retirees making up an ever-larger share of the population despite efforts to raise the retirement age (Rosefielde 2001, Svejnar 2002a). In others, baby booms have led to high levels of youth unemployment (Svejnar 2002b). There is evidence of excess mortality over the course of the transition, and a number of transition economies have experienced substantial emigration, especially of working-age individuals. Thus, part of the fall in employment seen in Figure 5 reflects demographic change rather than a lack of available jobs.

Some of the effects of population change can be accounted for by looking at the size of the labor force relative to the population. Figure 8 reports the ratio of employment to population. In transition economies that have joined the EU, the ratio has held steady over the course of the transition. It is only slightly below the average for developed economies.[47] The CIS countries show declining and relatively low ratios, a result that is counter to the tendency for this ratio to be inversely related to the level of per capita income. While demographic forces influence the ratio, it is also responsive to labor market conditions, since discouraged workers will drop out of the labor force, since young individuals can prolong their education, and since some workers will seek work abroad.

Mickiewicz and Bell (2000) cite OECD data to show that for the Central European countries, the ratios of labor force to population are within the range of other European market economies. The Balkan countries and the former Soviet states show the greater variation. In some, the share of the population at work is trending up. Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan, on the other hand, show rates that are falling. Heinegg *et al.* (2006) show the Central Asian rates to be below those of comparable countries elsewhere in the world. Rutkowski (2004, 2006) argues that even countries with rising ratios will face labor market problems in the future because these high rates are often sustained by delayed enterprise restructuring, tax and wage non-payment, and the failure to eliminate unviable low-productivity jobs.

The most commonly used measure of labor market performance is the unemployment rate. However, unemployment is subject to well-known measurement problems due to, for example, workers who become discouraged by the lack of jobs and drop out of the labor force, the levels and duration of unemployment benefits, the tying of health and other benefits to status as either employed or part of the registered unemployed, etc. Figure 10 presents the levels of unemployment over the course of the transition as measured by registered unemployment, meaning it is based on a count of those who register with the authorities as being unemployed. At the onset of transition, unemployment effectively did not exist. With the onset of transition, some countries experienced a sharp rise in unemployment, while in others countries the increase was delayed and more gradual. There was a tendency for unemployment to decline in the mid-1990s, followed by a second upward spike that resulted from the ruble crisis or from second attempts at stabilization in countries whose first attempts had not been successful. This spike was followed by a further decline in registered unemployment in a large number of the transition economies.

Registered unemployment is a measure of those who have registered as unemployed with the authorities. It is an imperfect measure of unemployment for a number of reasons. One is that there may be strong incentives for workers to register as unemployed even if they are not. This may be due to the fact that registering with the authorities is required if the individual is to become eligible for unemployment support payments, labor office assistance in seeking a new job, formal retraining programs, and, in some

[47] The variations among OECD or EU countries are, in fact, quite large.

countries, social benefits such as access to free health care, etc. Thus, even individuals who are working in the gray economy, who are working abroad, who have not worked in the past or who do not wish to work, may register as unemployed. Nevertheless, registered unemployment data need not overestimate unemployment. If regulations for registering as unemployed require a long period of prior employment as a condition for registering, if registration offices are few and function poorly, and if unemployment benefits are minimal, workers may forego the registration process.[48]

To understand the usefulness of registered unemployment data for policy analysis in the transition economies, we need to consider the existence of the so-called "gray" or "shadow" economy. In the extensive literature on this topic, the boundaries of this sector vary from researcher to researcher. Some include in the gray economy activities that involve the production of illegal goods and services, such as drugs and prostitution. Others, such as this report and the sources cited herein, restrict themselves to legal goods and services whose production is deliberately hidden from the authorities so that the producers can avoid paying taxes, registering their firms, meeting regulatory requirements, or paying mandated benefits to their workers.[49] The existence of the gray sector has a number of negative ramifications. The public's loss of respect for the rule of law is the most critical; but also the loss of tax revenue and the potentially severe distortion of official statistics on output and employment are also important. Wages in the gray economy are lower, hours of employment may be limited and irregular, and the failure of gray sector producers to report and pay taxes on incomes exacerbates the tax burden on legal firms and reduces their competitiveness *vis-a-vis* gray sector firms. The gray sector may harm consumers by providing shoddy goods. On the positive side, the gray economy allows producers whose functioning would be prevented by excessive regulation or other obstacles to produce goods and services and to provide employment and incomes to individuals who cannot find jobs in the legal sector. Figure 11 shows a clear inverse relationship between unemployment and the size of the gray economy, although, of course, the direction of causality is unclear.

Table 4 reports a methodologically consistent set of estimates of the size of the gray economy in a sample of transition economies and provides summary data to permit international comparisons.[50] Clearly, all economies have gray sectors, although the driving forces may differ across countries. In developed market economies, the main motivation is likely to be the avoidance of profit and income taxes. Some of the more advanced transition economies, such as the Czech Republic, the Slovak Republic, and Hungary, have gray sectors whose size falls within the upper range of the OECD countries. The motivation for gray sector economies in these transition economies may be similar to that found in the developed market economies.

All lower-income transition economies, and some higher-income ones, are estimated to have large gray sectors. A large proportion, sometimes even a majority, of the value of goods and services produced in these countries is the result of unrecorded economic activity. On average, these countries have gray economy sectors comparable to those of Latin American counties and greater than those of Asian economies. These international comparisons suggest an inverse relationship between the size of the gray economy and the level of development, a relationship holding both within the transition economy countries and internationally. Moreover, the motivation for gray sector activities in less developed countries is less the evasion of income taxes than the evasion of onerous government regulations, difficulties in registering businesses, the predation of corrupt officials, lack of competitive markets, a weak business environment, etc. Sectors of the economy where the gray economy is particularly prevalent

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[48] See Mickiewicz and Bell (2000) Ch. 1 and Standing (1996).

[49] For methodological issues in the measurement of the gray economy, see OECD (2002a); for a survey of the issues as they pertain to transition economies, see Feige and Ott (1999); and for a general survey, see Schneider and Ernste (2000).

[50] Any estimates of the size of the gray economy in a given country are subject to considerable error, but the orders of magnitude reported here are relatively robust with respect to assumptions and methodologies.

include agriculture, construction, retail trade and repairs, hotels and restaurants, and transportation, although no sector is entirely free of such activity (Nastav and Bojnec, 2007). The lower-income economies in our sample are thus structurally more susceptible to the existence of large-scale gray market activities due to their greater reliance on the sectors where gray economy activity flourishes.

Since the existence of gray sector employment serves as a shock absorber, the picture of unemployment provided by data on registered unemployed is too bleak. The existence of a large gray economy, however, also implies a variety of social and economic pathologies that must be seen as undesirable by policy makers. Attempts to reduce the size of this sector through economic and legal measures, including the elimination of various unnecessary regulations on businesses, reductions in tax rates, and better enforcement all should play a role in turning gray economy firms into legitimate ones, a process that will also serve to reduce the number of registered unemployed.

Some observers believe that a accurate measure of unemployment can be obtained through labor force surveys (LFSs). Most surveys are conducted according to a methodology devised by the International Labour Organisation (ILO), which defines unemployment as being without a job at the time of the survey, as having actively sought work before the survey, and as being ready to accept a job if offered. The survey sample is designed to reflect the demographic composition of the country. While respondents may lie about employment in the gray economy out of concern that the census takers interviewing them will report them to the authorities, the LFS measure of unemployment is seen as being more accurate in this regard because there are fewer incentives to provide incorrect information and because the construction of the sample and the interviews provide greater accuracy about the characteristics of the population.[51] The main drawback of the LFS is that, due to its cost and more complex organizational requirements, it is only conducted from time to time whereas the registered unemployment data are continuously updated as people register with the authorities. Moreover, not all transition countries conduct such surveys, and some have begun to do so only recently.

The potential gaps between the two measures of unemployment are evident in Figure 12. In Bulgaria, an initially wide gap between the two measures closed quickly, suggesting that the two measures of unemployment now provide the same information about unemployment. In Macedonia, the two measures both indicate high levels of unemployment and tend to move with each other over time. The gap between the two measures is quite large, however, with the registered unemployment rate about one-third greater than the LFS rate. This is in part due to the fact that access to public health care in Macedonia requires that citizens be either employed or registered as unemployed. Those working in the gray economy, those who do not wish to work, and those working abroad but returning to Macedonia from time to time, have a strong incentive to register as unemployed. In Kyrgyzstan, the opposite situation prevails, suggesting that the costs of registering as unemployed outweigh the benefits.

In sum, there are various ways of conceptualizing labor market conditions in transition economies, and while all provide some measure of information, they must be viewed in the context of the large structural changes taking place as well as in the context of the starting conditions pre-transition. The macroeconomic record makes clear that the transition has imposed considerable stress on workers, their incomes, and on the labor markets in the region for a significant period of time during the transition. Nevertheless, we must be cautious in interpreting aggregate data on jobs and incomes both because of the major system changes brought about by the transition and because of problems with the data on unemployment, incomes, and output. In the next section of this survey, we will review the literature on the microeconomic evidence for labor market problems as well as examine some of the more specific

[51] Nevertheless, even conceptually, the ILO methodology is not without its own problems. For example, the methodology provides three definitions of unemployment and also allows countries some leeway in counting self-production in agriculture as employment or not. This leads to difficulties in cross-national comparisons of survey results.

causes of these problems and means for their solution.

Microeconomic and Structural Developments. While the foregoing section has examined the macroeconomic trends in employment and output in the transition economies, in this section we focus on microeconomic phenomena. These include privatization, because privatization or the lack thereof determines the nature of the business units in which employment takes place, and, to a large extent, their behavior determines the demand for labor as well as the types of skills required of workers. There have also been significant changes in the structure of output, with services growing at the expense of industry and agriculture in the more successful transition economies and less so in the ones that have experiences slow growth and higher levels of unemployment. Firms have also changed in terms of their size, with small and medium-sized firms (SMEs) taking on a greater role in the economy and especially in the creation of new jobs. We examine the role of SMEs as well as the barriers to their growth. Then, we consider how firms have changed as creators of jobs though investment, both by domestic investors and by foreigners. Finally, we examine the labor market and labor market institutions to see what role they have played in the evolution of employment and unemployment in the course of transition.

Privatization and Employment – International Evidence

Privatization. Most economists believe that the privatization of state-owned enterprises (SOEs) improves their efficiency and accelerates aggregate economic growth. Many economists as well as policymakers and the general public also believe that such privatization is likely to cause mass layoffs and thus have an adverse social impact. Examples of evidence of increased efficiency at the firm level due to privatization can be found in Boardman and Vining,1989, Glade, 1991, Naqvi and Kemal, 1994, Cook *et al.*, 1998, Megginson and Netter, 1999, Frydman *et al.*, 1999, and Dewenter and Malatesta, 2001).

Privatization can cause job losses in two ways. One is direct and takes place at the firms being privatized. As state-owned enterprises are privatized, the newly-privatized enterprises often eliminate redundant workers in order to cut costs and improve efficiency and profits. The other source of job loss is due to the secondary effects of the increased efficiency that privatization brings about (Kikeri, 1998). The remaining SOEs in an industry will face increased competition from the growing and increasingly more efficient private sector, and they may thus be forced to lay off workers and cut wage costs in order to survive.

Despite the widely held view that privatization causes large job losses, even studies that focus on the direct effect of privatization on unemployment, that is, on the employment changes that take place only in firms that have undergone privatization, tend to give contradictory results. Okten and Arin (n.d.), LaPorta and Lopez-De-Silanes, 1997, Bhaskar and Khan, 1995, and Boubakari and Cosset, 1998, for example, find large, sometimes in the range of 30-50 percent, declines in the employment or the wage bill of firms privatized in developing countries. In developed countries, the literature suggests that job losses are likely to be minor or nonexistent (D'Souza *et al.*, 2004 and Megginson and Netter, 1999). In transition economies, the results appear even more dependent on the form of privatization and the nature of the new owners. Brown *et al.*, 2005, and Frydman *et al.*, 1999, based on studies of a number of transition economies, do not find a strong negative effect of privatization on employment, though there appear to be country differences as well as differences within a country due to differences in the method of privatization. For example, the nature of the new domestic owners, particularly whether they are “insiders,” meaning the firm's mangers or workers, or "outside" investors, impact on employment patterns. Insiders tend to maintain the status quo, thus minimizing job losses, but at the cost of the firm's growth or even long-term viability, while outside owners tend to strive for efficiency, partly through job cuts, but also to seek long-term growth for their firms.

At the macroeconomic level, one argument countering this concern over lay-offs by newly-privatized firms, as well as by the remaining SOEs, is that increased efficiency in the private sector will lead to

increased market share and more dynamic growth. This rapid growth in the private sector's output will create many more jobs, absorbing all the layoffs from SOEs and possibly even increasing the demand for labor. Scholars advocating this argument often point to the experience of mature market economies where the private sector dominates (Megginson *et al*., 1994). Katsoulakos and Likoyanni (2002), for example, use data from 23 OECD member countries for 1990-2000 to show that rising privatization receipts as a percentage of GDP, caused by more firms being privatized, reduces the current year's unemployment rate, suggesting positive net job creation from privatization. However, the same increase in the privatization-receipts-to-GDP ratio is also correlated with an increase in unemployment in the previous year. The authors attribute the latter effect to the labor-shedding that occurs in SOEs when privatization is announced, and the former effect to increases in employment as privatization-induced increases in efficiency lead to faster growth. Williamson and Kuczynski (2002, pp. 229, 234) claim similar net job-creating outcomes through indirect job expansion from privatization in Latin American countries, although other studies (Kikeri, 1999, Megginson and Netter, 1999, Boubaraki and Cosset, 1998, McKenzie, 1998) suggest that developing countries are more vulnerable to net aggregate job losses as the result of privatization.

Modes of Privatization and Implications for Labor Force Outcomes.

While few economists would deny that in transition economies privatization is the key to sustainable growth and increased job opportunities in the long run, they are far from agreeing about its impact on aggregate employment in the short and intermediate term.[52] Nevertheless, there is a reasonable consensus that the ways in which privatization takes place, as well as its pace, have a direct influence on the performance of privatized firms and of the economy as a whole.

Restitution and Small Privatization. In a number of East European countries, efforts were made to identify owners of property that had been nationalized and to return that property to those owners. In some cases, this involved the dissolution of collective farms and the distribution of the land and machinery to what became private farmers. In other countries, where previous owners could not be identified, the assets of the cooperative farm were distributed to the members.[53] There is some controversy over the effects of such land redistribution on agricultural output and efficiency; although the effects on agricultural employment were generally negative.[54] This was largely due to the elimination of socialist-era subsidies to agriculture, which had both stimulated the intensive use of equipment and fertilizers and encouraged the over-employment of labor on collective farms. The initial effect of agricultural privatization was to reduce labor use in order to improve efficiency, although employment loss at private farms appeared to be less than at surviving collectives (Swinnen *et al.*, 2005). In some countries, there has been resistance to such privatization, leading to the need to continue to subsidize the agrarian sector. Consequently, those employed in it are at risk of losing their jobs if such subsidies become unsustainable.

Restitution and, more frequently, the sale or lease of small establishments to their workers was also a major way of privatizing retail outlets, restaurants and service establishments. Countries that pursued such privatizations aggressively were able to create a class of small business owners who could serve as the foundation for an entrepreneurial class while simultaneously improving the quality and assortment of

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[52] See, for example, Gupta *et al.* (2001), Commander and Coricelli (1995), and Appleton *et al*. (2002).
[53] Alanen (1999) describes some of the motivation for, and practical difficulties of, such asset and land distributions.
[54] See US Department of Agriculture (2001) for a positive assessment of the effect of agricultural privatization on grain output in Ukraine. Declines in employment, particularly in Eastern Europe, often affected women disproportionably as an agricultural employment pattern had emerged in many socialist countries where women remained as workers on cooperatives so that their family had access to land for private farming while the male family members sought employment in industry.

services offered by what was, in many countries, the sector with the greatest potential for growth.[55] Not all such establishments proved to be successful, and some owners took a passive approach, selling off the inventory of goods that they had inherited and then selling the business, but others undertook investments in their businesses in order to compete successfully in the emerging market economy, and, in those countries where business conditions were favorable to small and medium-sized firms, they were able to serve as an important source of job creation.

Privatization of Large Firms. The extent and method of privatization of large state-owned enterprises was the most controversial aspect of privatization, and it also had the greatest implications for economic performance and for the labor market. Three main methods were used. One was the sale of enterprises to foreign owners, often "strategic investors" who took a controlling interest in the former SOE. Generally, such strategic investors undertook a restructuring of the firm, injected some capital, updated or revised the firm's product line and integrated the firm into the parent's global supply chain. Case studies (Carlin *et. al*., 1994) indicate that labor shedding was not the prime focus of restructuring strategies, although critics of foreign investors were able to cite job losses, particularly in activities such as R&D and in the provision of social services such as employees' health, recreation and vacation facilities, which had been an integral part of SOEs' business activities before the transition.[56]

A second way of privatizing firms was mass or voucher privatization, in which all or some citizens received vouchers that could be used to obtain shares of SOEs that were being privatized. The process was more successful in some countries than in others. In Poland and the Czech Republic, outside owners were created, and managers of the newly privatized firms had to adapt to the business objectives of the new owners and to the loss of state subsidies, leading to improvements in efficiency and, hopefully, long term growth.[57] Russia, on the other hand, experienced a voucher privatization that saw large firms pass into the hands of a group of “oligarchs,” many of whom came from the old managerial elite, and smaller firms pass into the hands of their managers as well into the hands of local and municipal governments. In such circumstances, firms have not always flourished due to their owners' uncertainty about the legitimacy of their rights to own these firms and their resulting desire to move money overseas; local governments have tended to be paternalistic owners supporting local enterprises either directly or tacitly by countenancing tax arrears, etc. Some restructuring has taken place, but the slower recovery of output in Russia, Ukraine, etc., suggests that, overall, job growth in privatized firms has not been high.[58]

Doubtless the least successful form of privatization has been so-called insider privatization. Such privatizations, which include the preferential distribution of vouchers to employees of a firm so that they can bid for its shares to the exclusion or disadvantage of outside investors or leasing, whereby the workers, or more likely the managers, of an SOE are able to buy the firm from the state for a nominal amount up front, promising to pay the full purchase price out of future profits. These and other preferential transfers of SOE's to insiders tend to avoid significant layoffs in the short run, but also impede firm restructuring and growth in the long run.[59] Manger-owners often loot such firms of their most valuable assets or siphon off profits to themselves. Worker-owners find it difficult to decide for any restructuring that entails a reduction of the work force, and, as a result, these firms tend not to be

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[55] For example, during the first few years of transition, in the Czech Republic 26,000 businesses were sold or leased in this way, 30,000 – 80,000 in Poland, and nearly 9,000 in Hungary (Brada, 1996).
[56] See Sinn and Weichenrieder (1997) for discussion of these issues.
[57] The controversies about these programs involve mainly questions regarding the efficacy of corporate governance that is created through voucher privatization and whether there were appropriate market-oriented institutions to support such suddenly-privatized firms.
[58] See Standing (1996) and Krueger (2004) for studies of ownership change and restructuring of firms in Russia.
[59] See Slaveski (1997) for a telling study of the Macedonian experience with insider privatizations.

profitable and often survive only by running up debt to banks, suppliers, or the state.[60] Although job losses are minimized, such firms invest little and thus also create few new jobs while impeding the ability and willingness of workers to change jobs.

It should also be noted that while some transition economies have essentially completed the process of privatization, others continue to have extensive state ownership of firms and farms, and in some countries there has been a process of selective re-nationalization, although such return to state ownership does not appear to be associated with an increase in hiring by the renationalized firms.

Thus privatization in transition economies has affected employment directly, to some extent through lay-offs (or retention in the case of insider-oriented privatizations) of redundant workers, but also through the dynamism of restructured firms that have increased production and thus employment. The way in which privatization has progressed has also influenced economic performance and the labor market in several important but indirect ways. One of these is through changes in the size distribution of firms. Small privatization and the breakup of large SOE's in the course of privatization sharply altered the size distribution of firms in transition economies in favor of small and medium-sized enterprises (SMEs) and to the detriment of very large and highly vertically integrated firms (OECD, 1994, pp. 59-61; OECD, 1995, pp. 41-43). Successful privatizations created new small and medium-sized firms where few or none had previously existed, and this allowed for greater dynamism and entrepreneurial activity, more competition, the development of managerial skills and the redirection of productive resources to their best uses. Second, privatization, properly executed, also stimulated foreign direct investment, and such investment was particularly effective in increasing the demand for labor and in raising wages in the host economies (Sgard, 2001; Kiss, 2007). Finally, privatization of banks and other businesses whose function it is to provide a supportive business environment was also important in supporting the growth of jobs.

Restructuring, the Growth of SMEs, and Investment

The Growing Role of the Service Sector. We have previously noted that one of the characteristics of the centrally planned socialist economy was an over-employment of resources in industry and agriculture and a neglect of the service sector. Thus, a transition to the market economy would entail a shift of labor from the former two sectors to the latter. Table 5 shows the shifts in employment for some of the more successful and higher income transition economies as well as for Russia and some of the more advanced EU countries. The evidence is that these transition countries, in the course of a decade of structural adjustment, have made major changes in resource allocation. All of them have reduced the agrarian sector's share of employment dramatically.[61] This trend is something that they share with the advanced industrialized countries of Europe, and, even in Russia, agriculture's share of employment has fallen significantly. Industry's share of employment has also fallen, although rather modestly and transition economy shares are significantly higher than those of advanced EU member countries. In part this is due to the lower level of per capita incomes (*pcy*) in the transition economies, as lower levels of *pcy* correlate to higher shares of industry (and agriculture) in employment at these levels of development. However, these transition economies have also seen a major stimulus to industrial production from their ability to access the EU market on favorable terms and from large inflows of FDI, much of it to the industrial sector. Nevertheless, only Russia, where these considerations apply much less, has seen some increase in industry's share of total employment. While the transition economies' private services sectors' share of

[60] Djankov and Murrell (2002) report that firms privatized to outsiders have 50 percent more restructuring than firms privatized to insiders.

[61] Poland is something of an outlier in the level of agriculture's share in employment due to the fact that it retained a large private farm sector under communism.

employment has not caught up with those of the more developed European countries, they have shown a remarkable increase over the course of the transition. Thus, the more advanced transition economies appear to be undergoing significant structural changes, changes that are consistent with those taking place in other European market economies, with whose structures these transition economies are converging. The private services sector in transition economies has been, and will continue to be, a major engine of job creation. It should be noted that, in these more advanced transition economies, the private service sector is increasingly based on so-called "modern" services such as finance and data processing, and less on low-productivity activities such as retailing.

Table 6 provides sectoral shares of employment for some CIS countries, using a somewhat different reporting basis in that services include all, not just private, services and thus growing government employment can be, and likely is, a source of employment growth in the service sector. Several other differences between these countries and the more advanced transition economies are noteworthy. First, the shares of agriculture in employment are higher and in more than half the countries they have increased over the period of observation. To some extent these higher shares are a reflection of the CIS countries' lower level of *pcy*; but the increase in agricultures' share of employment is a strong indication that jobs in industry and services are not being created, and that agricultural employment is a last resort as people move back to rural areas to share work with farming families. Some countries have seen a large decline in industry's share of employment. Second, unlike in the advanced transition economies, where such shifts can be seen as a normal part of sectoral restructuring, in these CIS countries the sometimes sharp decline in industrial employment is a sign of the collapse in industrial output that accompanied the termination of inter-republic pattern of production and trade and the accompanying subsidization of many CIS states' industrial sectors that existed in the Soviet era. Overall, these shifts in employment suggest much less positive labor market developments than can be observed in the more advanced transition economies.

While the literature provides little evidence on the job creating effects of sectoral shifts such as the ones described here, more micro-oriented studies such as Bartelsman *et al*. (2004) support the view that shifts in resources among firms in different sectors should lead to higher efficiency with which resources, including labor, are allocated, and such increases in labor productivity should lead to increases in labor demand. Moreover, Bartelsman *et al*. (2004) also demonstrate that such shifts in resources among firms were more common in the transition countries that had made the greatest progress in moving toward a market economy. Since, according to the evidence presented in this section, those were also the countries that had the greatest sectoral shifts in favor of the secondary and tertiary sectors, it seems safe to conclude that these countries also experienced positive job creation from these shifts. The literature is clearer, of course, on the positive productivity benefits of shifts of labor from agriculture to industry and services than on the effect on employment.[62]

Entrepreneurship and the Growth of the SME Sector. It is widely accepted that a major feature of all transition economies at the outset was an almost total absence of small and medium-sized firms (SMEs) and that such firms would have to become the engines of growth in the course of transition.[63] This expectation has at least in part been borne out as an OECD report notes:

> *In virtually all of the relatively successful transition economies, new small private businesses have served as a primary engine of growth, absorbing resources from the state and former state sectors and exhibiting notable dynamism in the context of fierce*

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[62] See, Bosworth and Collins (2007) for a case study that shows the growth and productivity enhancing effects of such sectoral shifts in productive factors.

[63] Nevertheless, there are strong counterarguments that SMEs have not been the engine of growth in transition economies to the extent claimed by conventional wisdom, and that the SME sector suffered from a variety of pathologies, including short-term perspectives, an excess of low wage unskilled jobs, etc. See Bateman (2000) for a vigorous critique of the performance of SMEs in transition economies.

competition and hard budget constraints. (OECD 2002b p.76)

This view of the importance of SMEs to job growth is supported by a variety of studies that cover different countries and time periods of the transition. For example, Acquisiti and Lehmann (1999), Konings *et al.* (1996), and Konings (1997) examine Russia, Poland and Slovenia, Hungary and Romania respectively and verify that SMEs were a major source of both gross and net job creation, in most cases in an environment where, as we saw above, total employment was falling mainly as the result of net job destruction in SOEs. Konings (1997) also shows that newly privatized firms outperformed older SOEs and private firms, a finding that is consistent with the conclusions of Bartelsman *et al*. (2004), who show that the creation of new firms in transition economies by whatever means results in enterprises that are more productive than are existing firms. Drnovsek (2004) constructed a large panel of Slovene firms covering much of the transition period, which enabled him to separate out the job creating effects of SME formation and of SME growth. He concluded that SMEs were responsible for the bulk of job creation in Slovenia over a ten year period and that it was SME creation rather than the expansion of existing SMEs that was most important for creating new jobs.

While SMEs are important for job creation, not all transition economies have benefited to the same extent from the growth of the SME sector. Heinegg *et al*. (2006, Table 23) provide comprehensive data on SMEs' share of employment in transition economies. Their data yields two broad conclusions. The first is that, for all countries for which longitudinal data are available, SMEs' share of total employment over the course of the transition has increased. Second, despite this growth in the share of the SME sector in total employment, the inter-country differences in 2001 were much greater in both absolute and relative terms than they were at the start of the transition. In 2002, Albania, Latvia, and Croatia had the highest SME shares of employment at 75, 69.9 and 67 percent while Azerbaijan, Belarus and Moldova had the lowest shares at 2.7, 4.6 and 8.2 percent.[64] The perspective on the role of SME's in employment varies somewhat with the definition of SME. Table 7, limited to firms with under 20 employees, suggests that transition economies, even the more successful ones, continue to have a deficit in SMEs' share of employment and that SMEs in these countries tend to be concentrated in the services sector. The transition economies, with the notable exception of Latvia, have a large deficit in the share of small firms' employment in manufacturing. Finally, Table 8 provides a different perspective on the role of SMEs by normalizing their number by the population. This perspective shows that, even among the Eastern European and Balkan countries, there are very large differences in the role of SMEs in the economy. An interesting question for further research is the extent to which these differences in the role of SMEs also cause differences in labor market outcomes.

The foregoing data on the share of SMEs in employment and output in the economy show that the perception of the role of SMEs greatly depends on how we define an SME. If we define SMEs as firms employing up to 250 workers rather than firms employing up to, say, 20 workers, we gain a very different conception of their role in the economy, as Table 8 shows, and this raises some important research and policy questions. If the larger size limit is used, it clearly captures medium-sized firms, and, for some economies, this paints a picture of SMEs accounting for the larger part of employment and economic activity. On the other hand, it is unlikely that medium-sized firms in transition economies are very important in terms of being a large part of new firm formation. Many of such medium-sized firms were likely spin-offs of SOEs being privatized and thus they were founded at the early stages of the transition; the transition economies' capital markets are not as yet very receptive to initial public offerings (IPOs) to finance startups of firms large enough to employ 250 employees, and few individuals have sufficient personal wealth to start firms that big. Thus, the most dynamic part of the SME sector in terms of startups and job creation has to be made up of much smaller firms, and, as the data indicate, these smaller firms account for no more than 25 percent of employment in the advanced transition economies. Consequently,

[64] See Estrin *et al*. (forthcoming) for a somewhat different set of estimates.

when we discuss the role of the SME sector in economic output and consider policies that can strengthen the SME sector, including firms up to 250 employed may give us an accurate picture of the size of the sector, but when we discuss the role of startups in creating jobs, we probably need to look at a much smaller universe of firms with no more than 20 or no more than 50 employees.

Given the evident importance of SME formation to labor market outcomes, as well as the extensive external donor support for SME formation and success in the transition economies, the sources of entrepreneurship, the problems faced by SME's at their inception, and their ability to survive and prosper have been the subject of extensive research.[65] One important finding is that the environmental drivers of entrepreneurship have changed over time. Initially, privatization opened up opportunities for entrepreneurial activity through small privatization, through the sale of productive assets by large firms undergoing restructuring and by the breakup of large vertically integrated firms, which created new opportunities for middlemen and sub-contractors. Large changes in prices and the chaotic situation created by the collapse of central planning and state authority made it easy for nimble and well-connected entrepreneurs to begin operations. It is worth noting that not all entrepreneurial activity was beneficial to the economy, as much of it relied on rent-seeking, connections, or the liquidation of privatized assets (Bateman 2000). Subsequently, in the Central European countries, a more rational and stable business environment emerged, one where entrepreneurial activity based on value creation came to the fore. In the Balkans and the countries of the former CIS, the business environment was not characterized by similar changes in the business climate, and, as result, entrepreneurship was both stunted and somewhat more continued along the earlier, more opportunistic, lines.

Surveys of entrepreneurs as well as of laws, institutions, and regulations, point to similar barriers to the formation and growth of firms. These factors are summarized in Table 9. The first indicator is the World Bank's index of the ease of doing business. This index is based on an objective survey of indicators and laws and regulations relating to how easy it is to start and wind up a business and how easy it is to operate it, including issues such as hiring and firing of workers, obtaining resources, exporting, etc. Ease of doing business is important for starting SMEs and for their ongoing activities. Nevertheless, low levels of labor protection, easy registration, and minimal regulation of businesses may also be indicators of a lack of a strong legal framework for the functioning of SMEs. Moreover, examining laws and regulations may give a distorted picture of the barriers faced by firms because there may be a gap between public regulations and actual practice, so that short approval periods *de jure* may turn to bureaucratic delays and extraction of bribes from applicants in practice.

The second indicator is the growth competitiveness index (GCI) compiled by the World Economic Forum, and it seeks to measure countries' capability to sustain rapid economic growth based on their macroeconomic environment, public institutions, and technological capacity. It is in some ways the broadest measure of a positive environment for SME development, and it is based partly on objective facts and in part on observer opinion. The latter may inject a measure of realism, but may also be subject to a "herd mentality." Macroeconomic stability is important for entrepreneurs, and the rule of law, enforcement of contracts, effective bankruptcy laws, public regulation of the financial system, etc., are all important institutional safeguards for small businesses. Technological capacity is important as well, since access to telecommunications and the internet, consulting support, etc., are needed by small businesses, and the development of human capital is critical for entrepreneurial activity to flourish. The difference between the rankings of Georgia and Armenia in these two categories illustrates the point. While the two countries may have few formal barriers to SME development and thus rank high on the ease of doing business index, they fare relatively poorly in the GCI index, presumably due to poor institutions, unstable macroeconomic climate, and unavailability of advanced technologies and the human capacity to utilize them effectively.

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[65] This research is ably summed up in Estrin *et al.*(forthcoming), on which this section relies.

The third index measures how easy it is for firms to obtain access to finance. The measure is based partly on macroeconomic stability and partly on the development of the financial system and its legal and institutional underpinnings, including firms' access to domestic and foreign capital. Entrepreneurs in poor countries find it hard to obtain capital on their own for SME startups, and while access to bank lending or capital markets may not be appropriate for starting an SME in any country, the ability to mortgage personal property, to borrow against financial assets, etc., do depend on the strength of property rights protection and on the effectiveness of the banking system. Lacking such options for financing startups, entrepreneurs become dependent on their own funds or resort to the theft or illegal acquisition of state-owned assets to get their business going. In many transition economies, there has been considerable progress in the development of an effective banking system, often through the involvement of foreign banks, but, nevertheless, in too many cases, banks continue to prefer lending to large SOEs or privatized firms and, particularly, to invest in government bonds at the expense of the SME sector. The number of IPOs on East European stock markets has been very small, and SMEs have been left to rely on their own retained earnings to finance their growth. Overall, note that the financial index appears to be more closely correlated to the GCI index than to the ease of doing business rankings.

Finally, corruption, including the toleration of a large gray economy sector, places a heavy burden on SMEs, and some managers of legally registered firms cite gray market competition as the number one barrier to their firm's viability and growth. Corruption makes it expensive to start a business if payoffs to government officials are needed to register a business and obtain real property. Ongoing payoffs to officials and to local "mafias" also take a heavy toll on revenues. Corruption in the enforcement of laws makes it difficult to use and rely on written contracts and to operate business on a rational "arms-length" basis, forcing business owners to operate through "trusted" networks and contacts with managers of other businesses and government officials, thus placing added emphasis on rent-seeking over value-producing activities and limiting entry into the SME sector to those who have the appropriate connections. The rankings of the transition economies vary considerably, but too many of these countries are characterized by high levels of corruption.

Table 9 clearly shows that there is, in the environment faced by SMEs, a large divide between the Central European countries and the former CIS countries. To the extent that these indicators more or less accurately capture the difficulties faced by SMEs, it is evident that, if we view SMEs as a major engine of job creation, then improvements in many aspects of the business climate are needed for greater job growth in the lagging transition economies and may be helpful in the more advanced countries as well.

Capital Formation and Foreign Direct Investment. Growth of employment in a modern economy depends on the creation of new work places through investment. Capital formation in the communist economy accounted for a large share of total output, although the slowdown in economic growth in the 1980s led to reductions in the rate of investment in favor of protecting consumption throughout the region. Following the collapse of central planning, investment decisions devolved to the private sector rather quickly in some countries, but remained under state control through continued state ownership of firms, and informal means, such as continued government control of the banking system, in others. Many firms found themselves with excess physical capital. This included firms that had operated in the defense sector, in heavy industries, or in industries, such as microelectronics, that were totally uncompetitive with industries elsewhere in the world, or that had had large exports to other Council for Mutual Economic Assistance (CMEA) countries through specialization agreements. It also included firms that were excessively vertically integrated and needed to outsource their supply chain and firms that wished to eliminate unprofitable lines of business or to reduce the social services that they provided their labor force. Given the specificity of capital stock, defense plants could not be easily converted to making consumer goods, so the transition did spur some investment in sectors where consumer demand was strong. Nevertheless, the major structural changes, inflation, the collapse of intra-CMEA and then intra-CIS trade, and the decline in demand for many products led to a sharp downturn in investment. The level of investment depends on two main drivers, investors' expectations of future profits and business

conditions and on the institutional framework, meaning the security of property rights and of contracts, possibilities of state predation, and the existence of institutions for financial intermediation.

The initial effect of transition was a sharp reduction in investment (Table 10). In the transition countries that became EU members, this decline was reversed fairly quickly and the 1990 levels of investment were regained in 1993 to 1994, except in Estonia and Latvia. Now, the absolute real dollar amount being invested in these countries is considerably higher than it was in 1990, and the share of GDP allocated to investment has also risen over time. Thus shortfalls in capital formation do not appear to be a serious barrier to employment growth in these countries, save, perhaps in Estonia and Latvia.

The Balkan countries show a somewhat different pattern. Other than Bosnia and Croatia, the Balkan countries suffered a much longer decline in investment, and, with the exception of Moldova whose investment levels remain depressed. These countries' investment outlays did not surpass the 1990 level until 2002 or so for a variety of reasons. Some countries suffered from war, civil strife, and unrest, or the spillover from regional conflicts. Others failed in their initial macroeconomic stabilization programs and had to repeat the exercise in the later half of the 1990s. All of these countries suffered from slower and less effective implementation of reforms and privatization. A number of the less dynamic Balkan countries exhibit lower shares of investment in GDP. Overall, with the exception of Croatia, investment was not a dynamic force for job creation in these economies. Political stability in the region is a *sine qua non* for higher investment levels, but much remains to be done in terms of an improved climate for investment as well.

In the FSU countries, investment levels have remained well below the 1990 level for the entire period, and, in most of these countries, the share of GDP devoted to capital formation has fallen and is now at levels that are low by international standards. Thus, unless the investment climate can be dramatically improved, lack of capital formation will continue to be a problem for job creation.[66]

Foreign direct investment (FDI) is a particularly effective way of supplementing domestic saving and investment in the transition economies. It not only brings in additional capital, but also technology, managerial know-how, and integration into the supply chains of major multinational firms. In many transition economies, foreign-owned firms pay higher wages, generate higher profits, export more, and create more jobs than do local firms (Hunya, 1996; Kiss, 2007). As Table 10 shows, there is a great variation in the amount of FDI that transition countries have received. The more advanced Central European countries and the Baltic States have the highest levels of FDI stock *per capita*. The Balkan countries, except Croatia and Slovenia, have lower levels (see Hunya, 2003), and many CIS states, unless they possess exploitable natural resources, have even lower levels of *per capita* FDI.

The upsurge of FDI into the transition countries of Central Europe has spurred a large empirical literature on the determinants of these FDI flows.[67] All studies agree that location, especially proximity to the markets of the EU, is an important factor attracting FDI, as are macroeconomic conditions and the pace and pattern of reforms, especially progress with privatization, and good macroeconomic performance. Negative factors include political instability; a small decline in output at the start of the transition, presumably because it signifies a reluctance to reform the planned economy; corruption (Smarzynska and Wei, 2002), and macroeconomic and political instability. Other studies stress the attraction of agglomeration economies and infrastructure (Campos and Kinoshita, 2003) and of specific policies that affect the profitability of FDI and the abundance of host-country labor skills (Carstensen and Toubal, 2004). The evidence on the role of low wages in attracting FDI is ambiguous, as is the role of natural

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[66] The existence of a large shadow economy in these countries makes it difficult to judge what real capital formation is; it may be that part of the observed decline in capital formation is due to the failure to record gray economy investment.

[67] This work includes Bevan and Estrin (2004), Brada *et al.* (2006), Brenton *et al.* (1998), Deichman *et al.* (2003), and Resmini (2000).

resources. In general, then, FDI reacts to the same forces that influence business formation and domestic capital formation, and thus it is not likely to serve as a remedy for shortcomings in domestic policy in the transition economies.[68]

The Labor Market and Its Institutions

A natural question to ask is whether shortcomings and rigidities in the labor markets and the institutions associated with them can explain the high levels of aggregate unemployment, the low levels of job creation, the long duration of unemployment, and the high levels of youth unemployment that are evident in the transition economies.[69] Certainly in terms of the criteria just enumerated, even the more successful transition economies have outcomes that do not match the averages of the EU or OECD member countries.

Labor market flexibility is usually characterized in terms of several indicators, including:

Unemployment Benefits. If unemployment benefits are high, then workers have fewer incentives to seek a new job. However, Cazes (2002) and Svejnar (2002) argue that passive unemployment benefits in the transition economies are below EU levels both in terms of the percent of wages replaced by unemployment benefits as well as by the duration of such payments. Moreover, there is little relationship between the economic performance of these countries and the amount expended on passive unemployment benefits. Active benefits (Ham *et al.*, 1998), which in some transition economies are higher than those of EU countries, may have some positive impact on labor market outcomes, but the evidence is not conclusive and these benefits should in any case promote market flexibility rather than impede it.

Unionization. High levels of unionization as well as the way in which unions are organized and how they are allowed to bargain with employers also affects the flexibility of the labor market. Svejnar (2002), Boeri and Garibaldi (2006), and Van Poeck and Viener (2007) examine the extent of labor union membership as well as measures of labor union power in the transition economies, and they conclude that labor unions have no greater and perhaps less bargaining power in transition economy countries than they do in the EU.[70]

Hiring and Firing Regulations. The literature on this topic, such as Boeri and Terrell (2002), is consistent with the impressionistic findings reported in Table 9 where ease of doing business, meaning, in part, to hire and fire workers, does not correlate well with economic performance. The evidence suggests that job protection in the transition economies is no grater than it is in EU or OECD countries.

Payroll Taxes. Payroll taxes are something of a problem for the transition economies. Under communism, a broad range of social programs and benefits was financed by the enterprises, and, in some transition economies, these levies and charges were retained, effectively paying for a large part of government social programs as well as contributing to general government revenue. Thus, from the

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[68] To the extent that resource rich economies get large FDI inflows despite poor policies, they are unlikely to experience much job creation since resource exploitation is a very capital intensive activity that creates relatively few jobs.

[69] OECD (2005), for example, makes a vigorous case for the existence of severe labor market inflexibilities in the Slovak Republic. Van Poeck and Viener (2007) confirm the OECD's conclusions for Slovakia, but, based on careful comparisons, they find that other Central European countries show labor market flexibility that compares quite favorably to that of other EU countries.

[70] Svejnar considers a broader sample of transition economies than do Boeri and Garibaldi and Van Poeck and Viener, who examine only those transition countries that joined the EU. The conclusions are quite similar despite these differences in country coverage.

standpoint of the firm, hiring workers is considerably more expensive than the workers' wage would imply. Svejnar (2002) concedes that such a high wedge between wages and enterprise labor costs may be a barrier to increased employment, and Kosi and Bojnec (2006) provide some econometric evidence to this effect, but Cazes (2002) provides contrary evidence, leaving the issue in some doubt.

Thus, with the exception of high employment taxes, the labor markets of the transition economies do not appear to be at an institutional disadvantage *vis-à-vis* those of developed European countries. It is worth noting that the evidence for this argument comes largely from studies that focus on the Central European transition economies. Nevertheless, there is little evidence that labor protection is stricter or that labor unions are stronger in the former CIS countries.

Boeri and Terrell (2002) explain the differences between Central Europe and the Baltic States and the other transition economies in labor market outcomes by noting that the Central European governments created a "wage floor" though their more generous unemployment assistance policies. Such a downward rigidity in the wages of low skilled workers destroyed many of their jobs, but, at the same time, this downward rigidity stimulated the startup of new businesses. The former CIS counties, on the other hand, allowed wages of the unskilled to fall precipitously, saving their jobs, but creating major structural rigidities in the economy, including in the labor market.

Another explanation for the poorer performance of transition economy labor markets may be a lack of information either on the part of workers about job opportunities and about typical wages for various skills, or on the part of employers about the availability of labor skills they need or the cost of hiring workers with such skills. This argument is plausible given the labor market conditions of the communist era: small wage differentials, centrally-determined wages, and long-term employment for most workers meant that obtaining information about job opportunities made little sense for workers, and there were few formal ways of providing this information. From the employers' standpoint, labor hoarding meant that employers were often indifferent to the skills and work experience of the workers they were hiring, as it was difficult to reward better workers through higher wages given centralized wage scales. This lack of institutions to disseminate wage information as well as the habit of not seeking such information or responding to it could lead to fewer workers changing jobs and fewer employers seeking changes in the skill composition of their work force. The result would be a more rigid labor market.

While this argument has a measure of plausibility, the available evidence suggests that the labor market in transition economies appears to be informationally efficient. Adamchik and King (2007) provide a fairly direct test of the informationally efficiency of the Polish labor market by fitting a stochastic frontier function that relates workers' wages to their skills, job experience, and other characteristics. If the Polish labor market were inefficient, there would be many workers who would have wages that were well off the wage frontier, meaning that they were not receiving the wage that they could given their personal characteristics. Instead, Adamchik and King find that Polish workers are relatively close to the frontier, signifying that there are few large mismatches between worker characteristics and the wage they receive. Consequently, the labor market in Poland appears to be informational efficient. Another form of evidence of informational efficiency comes from studies of the valuation of human capital by the labor market such as Munich *et al.* (2005), Pastore *et al.* (2005). These studies find a growing rationality in the way in which the wage structure values workers' human capital. These findings are important not only for showing that transition economies' labor markets are efficient, but also because the rational valuation of workers' human capital suggests that training and education can play an important role in combating unemployment.

Implications for Job Creation in Transition Economies

A number of conclusions follow from this analysis of labor market developments in transition economies. Perhaps the most striking is the heterogeneity of the experiences by country. The Central European and

Baltic countries, many of which are now members of the EU, while experiencing significant unemployment at the onset of transition have by now established functioning labor markets. Policy interventions in these countries, as well as the measures that they took to create a functioning market economy, were to a great extent successful and effective. While unemployment rates may still be high in comparison to some older EU members, this difference is largely due to a mismatch between skills and job openings, the effects of a higher real wage on the availability of low-skill jobs, and non-labor market factors such as social and cultural barriers to regional mobility. While these factors do deserve policy attention, there is also the expectation that they are self-correcting in the intermediate term.

In much of the Balkans and in the former CIS countries, the situation is considerably different. Economic recovery is much less dynamic, many low-paying and jobs unviable in the long run continue to exist, and the business climate is less conducive to the creation of new jobs. Unemployment and underemployment continue to be major problems. Given the low elasticity of employment with respect to output, efforts to create jobs directly through training, or the direct support of the business sector, are not likely to create a large number of new jobs. Rather, job creation is most likely to come from improvements in the business environment through assistance in the creation of market-supporting institutions, in the strengthening of the rule of law, especially in commercial relations, and in the reduction of corruption.

A second conclusion that we can draw from this discussion is that the growth of employment, or of jobs created by USAID programs, is likely to be underestimated by looking at the aggregate data. The general trend in the region has been toward reducing the number of people working from the unnaturally high levels of the communist era. Policy interventions should not be measured by the growth in the number of jobs, a point already made on more theoretical grounds in the first part of this report, but rather by improvements in labor market flexibility, both geographically and across sectors, and by growing incomes (which measure the replacement of low-wage and low-skill jobs by better paying jobs demanding higher skills).

APPENDIX B: DO TECHNICAL ASSISTANCE PROGRAMS CREATE NEW SPENDING, NEW JOBS, OR NEW EMPLOYMENT?

Different types of assistance programs obviously have different goals and impacts. Probably the only common element across all types of assistance programs is that they involve new spending of some sort. The job and employment effects depend on the type of assistance, conditions in the country, incentives created by the assistance programs, and various agent-specific issues. The latter include specific characteristics of the firms and workers involved as recipients of the aid as well as the transferability and spillovers of whatever aid is provided.

New Spending. The effects of program spending in creating new economic activity depend on how the program dollars are spent. At one extreme, assuming the full employment of all resources, new spending would create inflation rather than new economic activity. At the other extreme, assuming massive unemployment and underemployment of all resources, new spending could create completely new economic activity.[71] Reality usually lies somewhere between the two extremes. However, many transition economies at some time had, and some may continue to have, economies more nearly characterized by significant underemployment than by full employment of resources. An exception to this generalization is that even transition economies may have some strategic bottlenecks for critical resources or labor skills, at least in the short term. For example, training assistance programs may encounter shortages of enough skilled trainers to carry out intended programs without bidding up the wages of the required trainers. In this example, a training assistance program would tend to create new economic activity, more training, while also creating some "inflationary" wage pressure by bidding up the wages of skilled trainers. This simple example represents a general issue that should be considered in designing, implementing, and evaluating the real economic effects of program assistance.

New spending has both direct and indirect effects. The direct effects are easy to visualize in the form of more training, more employment, or more output, assuming away any monetary effects as opposed to real effects. The indirect effects are just as real but much more difficult to correctly measure. The indirect effects consist of repeated rounds of spending generated by the initial (direct) spending and the extent to which a program creates transferable benefits for non-participating firms and workers. The first of these indirect effects is referred to as the "multiplier" because the initial round of spending results in a multiplied effect on the economy.

The spending multiplier is a Keynesian concept that assumes initial spending has a multiplied effect due to resource unemployment and underemployment. When resources are not fully employed, new spending has a multiplier effect on real output because the initial recipients of any new spending re-spend a portion of what they initially receive. Of course, there are "leakages" that reduce the amount that is re-spent in each subsequent round. These leakages include personal/business savings, taxes, and spending on imported rather than domestic goods/services. In transition economies, capital flight and the leakage of spending power into the "dollarization" or "Euroization" of the economy are also important considerations. The larger these leakages are, the smaller the multiplier effect will be.

Another leakage that affects measured results is the informal/gray economy. For transition economies, this leakage can be substantial, as indicated by the estimated sizes of these gray economies. As we discuss in Appendix A, the shadow economy as a percent of 2002/3 GNP ranged from 20.1 percent in the Czech Republic to 68.0 percent in Georgia. What these percentages suggest is that a substantial portion of any new spending in the formal economy will be re-spent in the shadow economy in subsequent rounds. As a result, new spending will appear to have a much smaller impact on measured economic activity than on

[71] This, of course, assumes that there are no “leakages” of various types and there are no resource bottlenecks. Both assumptions are unlikely to be met in the real world.

all economic activity in the country because much of the spending ends up in the shadow economy. This spending is not captured in official GNP or employment statistics, although the gray sector does produce real output, real incomes, and real jobs. Put differently, program assistance results will be understated in any official data because of unreported activity in the shadow economy.

New Jobs and New Employment. Whether new spending creates new jobs and new employment depends on the nature of the spending, the macroeconomic circumstances of the national and local economy, and the microeconomic circumstances of the economic agents directly affected by the new spending. The discussion above on the nature of jobs indicates that new spending is not likely to create many new jobs defined as sets of duties that require specified skills in various enterprises. An exception could be forms of technical assistance that lead firms to create new and better job categories, possibly as replacements for old and lower-paying job categories. However, even in the case of "new" jobs, the net change in jobs may be zero or negative if inferior categories are replaced with new and better categories, especially in enterprises plagued by overstaffing from the days of central planning. Thus, even if new jobs were created by new spending, a count of those new jobs, especially a count that nets out destroyed jobs, obviously would be of little policy or practical importance for evaluating the economic impact of assistance programs.

Other Employment Dimensions. The discussion of employment in the main report indicates that some measures of ***new employment*** could be much more relevant than measures of ***new jobs*** in determining how successful assistance programs are. However, one of the easiest such measures to obtain is probably also one of the least useful, a simple count of new employment, meaning the addition of new employees. Such a measure is of interest, but it is extremely hard to interpret without having additional information about both the new and the "old" jobs at a particular firm. In fact, as just noted, improved firm efficiency may require a reduction in total employment, not an increase.

Other employment information besides simple employment counts that would add substantial value include, for both old and new employees, wages and benefits, hours of work, duration of employment, promotion opportunities, and transferability of skills from the program firm to other firms. Why worry about these other dimensions of employment, if the stated purpose of assistance programs is to create new employment? The reason is that additional information is required to determine whether apparent employment impacts are illusionary or real. For example, if a program results in "creating" 10 new employees by cutting the hours of 10 old employees in half, the program has created a "work sharing" result in which total employed hours and, perhaps, earnings have remained constant, even though the employee count has increased by 10. That outcome is a much different outcome than one in which 10 new employees are added with the same hours and earnings of already employed workers or even added at lower wages and hours than already employed workers, if the hours and earnings of the already employed are not cut.[72]

Another reason to obtain more detailed information on both new and old employees is that the impact of an assistance program might show up as an increase in hours for existing employees rather than as an addition of new employees. Many factors determine whether firms increase employment or hours in response to an increase in product demand. These factors include at least three main ones: (1) the hiring and training costs for new workers vs. the cost of increased hours for existing employees; (2) whether firms hire their own employees or "rent" them from an employment intermediary; (3) whether firms hire

[72] Adding new workers at the same wage and hours of already employed workers would be fairly unusual, except for the least skilled positions in a firm. It is very unusual for new workers to be employed at the same wage as workers with firm experience. There almost always is an element of firm-specific training that occurs for new workers. Human capital theory shows that the cost of such firm-specific training is split between the worker and the firm. The typical pattern is that the worker “pays” for his training through a lower starting wage that subsequently increases to repay the worker for his investment in firm-specific human capital.

workers "on or off" the books; and 4) whether the increase in demand is expected to be temporary or more permanent.

Employment Costs. Employment costs are a major factor in determining both the optimal level of employment for a firm and the mix between workers and hours per worker used to achieve any given output level. The larger the employment costs of hiring and training, the smaller is the (new) employment response of firms to an increase in demand for their final products or services. In effect, more expensive employment costs and termination costs make it attractive to use more hours by existing employees than to add new employees. At some point, the scales may tip in favor of new employees, especially if overtime pay is an important cost in increasing the hours of existing employees. The relevance of these issues for program evaluations is that some new employment resulting from assistance programs may show up as increased hours for existing employees rather than as new employees.

Employment Intermediaries. Depending on labor laws and regulations (including rules about health insurance, unemployment benefit costs, liability insurance costs, workers' compensation benefits, and social security benefit costs), firms may find it more attractive to rent workers from intermediaries. Such an arrangement can be mutually beneficial to both firms if the intermediary has lower employment costs than the firm that actually uses the workers in the production process. Such arrangements are especially prevalent in the market for temporary help, but they also are found in some markets for full-time workers.

Gray Economy Workers. In transition economies, it is also possible that formal-sector firms directly hire workers who agree to “work off the books,” becoming informal-sector workers who do not appear on the firm's formal sector books, or in any official employment or earnings statistics. Such arrangements would bypass the need for a facilitating intermediary firm, but the risks/costs to formal-sector firms could be prohibitive, depending on monitoring/detection probabilities and penalties. The relevance of these issues for program evaluations is that some new employment that results from assistance programs may be completely off the books and not show up in the firm's records, or in any official statistics.

Permanent vs. Temporary Increases in Demand. The employment impact of an increase in the demand for a firm depends importantly on whether the increase is expected to be temporary or permanent. A temporary increase is not likely to result in many, if any, new employees. Rather, a temporary increase in final demand usually would be met by increasing the hours of existing workers or using an intermediary to obtain some temporary workers. In fact, many firms initially react to any increase in demand as if it were temporary. Then, permanent changes, including the hiring of new employees, are delayed until the firm has a better idea of whether any demand change is likely to be permanent. Again, this means that new employment counts would understate the actual employment effect of such changes, until those changes are reflected in increased staffing levels. However, the effects would show up in the total hours and earnings of the firm.

APPENDIX C: KEYNESIAN MULTIPLIER ANALYSIS FOR BULGARIA

When USAID spends money or creates jobs in a country, it generates incomes for individuals in the economy. As these individuals spend the additional money they receive, they, in turn, create new incomes for others. This is commonly known as the Keynesian income multiplier, which states that a dollar increase of "autonomous" expenditure in the economy raises equilibrium GDP by some multiple of that dollar (Mundell, 1962, 1963). The effect is independent of the purpose for which the money was expended. For example, a dollar spent on rent will have the same multiplier effect as a dollar spent on local wages.

The value of the multiplier depends on leakages of expenditures from the economy. That is, an additional dollar of income for one recipient does not generate an additional dollar of spending or an additional dollar of income for other individuals in the economy. Some of the initial dollar of income is saved rather than spent, and some of the recipient's expenditure goes to imports, the purchase of which does not generate additional incomes and follow-on spending in the domestic economy. The more spending goes for foreign goods or leaves the country through capital flight, etc., the lower the multiplier. A simple open economy multiplier would thus be equal to 1/(1 – MPC + MPI) where MPC, the Marginal Propensity to Consume, is the amount of an additional dollar of income that is devoted to consumption and MPI, the Marginal Propensity to Import, is the fraction of an additional dollar of income devoted to purchases of imports of final goods.

The simple money income multiplier above can be further modified to take into account leakages from the income stream due to taxes. The greater the total leakages, the smaller the multiplier will be. In this respect, the shadow economy is a major issue, as shown in Table 4. The large shadow economy that exists in the three economies under consideration means that spending on projects in the formal economy have potentially large spillovers into the gray economy, even if all initial spending is concentrated in the formal economy. The problem for a multiplier analysis is that the extent of these spillovers cannot be estimated from reported data, since all official data relate to the formal economy. A reasonable assumption is that the extent of the gray economy in the overall economy probably is a good benchmark for guesstimating how much additional economic impact "leaks out" of the formal economy into the gray economy.

The three counties we examine in this report have large leakages, not only because of leakages into the gray economy, but also because they are small and trade dependent, suggesting a high value for the MPI. More problematic is that, as part of the transition, these economies have reduced trade barriers, allowing imports to grow rapidly. This has inflated the value of MPI.[73] For example, imports as a share of GDP in the Kyrgyz Republic increased from 44.6 percent of GDP in 2002 to 78.7 percent in 2006. In Bulgaria, the MPI of total imports was nearly 1.3 for the same period. With a high MPI and leakages into the informal sector, the multiplier may not be much different from 1 in any of the three countries. We believe that a conservative but not unreasonable assumption is that the effect of domestic spending of USAID expenditures is given by the expenditures themselves. For readers who are more optimistic about the size of the multiplier, we frame our analysis in a way that easily allows different multiplier values to be used.

Elasticity. In order to translate dollars added to the economy into jobs created we need a measure of employment elasticity; the relationship of employment to GDP (that is, the percent by which employment changes for each 1 percent change in GDP). We assume an elasticity of 0.5. This is a rather optimistic value, given the elasticity values reported in Figure 6. We note, however, that some USAID expenditures occurred in times of falling GDP, when employment with respect to output was more elastic.

USG Expenditures. Finally, we need an estimate of the level of USAID expenditures. Ideally, this

[73] Clark (1938) was among the first to note the sensitivity of the MPI to changes in trade policy. For estimation of the MPI, see Shinohara (1957).

information would be available directly. However, since there is not, to our knowledge, an accessible source from which we could extract expenditure data, we construct an estimate by extrapolating from USAID appropriations and mission obligation figures. From discussions with USAID representatives, we understand that appropriations in year *t–1* are a better estimate of expenditures in year *t* than are obligations in year *t*. This is because: (a) funding is obligated for the entire lifetime of a project, which can span multiple years, so that obligation levels and expenditure levels can differ; and (b) the ability of USAID country missions to engage in new obligations in any fiscal year depends on the timing of that year's U.S. federal budget process. This makes obligations highly sensitive to delays and changes in the budget process. Mission expenditures, on the other hand, include ongoing projects, previously obligated funds, operations expenses, etc., and are relatively insensitive to delays and short-term fluctuations in the budget. Since there is a lag of nine to fifteen months between the time funds are appropriated and the earliest time they can reasonably be expected to have been spent, expenditures in year *t* are better reflected by appropriations in year *t–1* than by appropriations in year *t*.

Of course, not all the funds budgeted for USAID are spent in country. A review of final reports of USAID-sponsored projects in Bulgaria, Macedonia, and Kyrgyzstan from the mid-1990s to 2005 suggests that the majority of projects (excluding reviews, studies, and other "administrative" projects) expended 40 percent to 60 percent of their budget in-country on locally produced goods and services, salaries, etc., with the remainder going for contractors' overhead, imported inputs, and other non-local goods and services. For purposes of this study, we estimate the average overall percentage of in-country expenditures at 50 percent of total mission budget. This estimate conforms to measurements contained in the 2007 CBJ (http://www.usaid.gov/policy/budget/cbj2007/support.html) and other sources.

Estimating Multiplier Effects on Employment Levels. Considering these factors, we can estimate the number of jobs created in a country by USAID expenditures as follows:

I. The amount of money added to the economy is USAID expenditures, *U*, times the income multiplier, M_y (to which we assign the value of 1), or UM_y;

II. That amount, as a percent of GDP, is: $\frac{\mathrm{UM_y}}{GDP}$;

III. The percent by which employment increases in response to a 1 percent change in GDP is *e*, the employment elasticity.

IV. The percent by which employment increases as a result of USAID expenditures is $\left(\frac{\mathrm{UM_y}}{GDP}\right)e_{GDP}$;

V. To get the number of jobs created, we multiply this figure by *E*, the number of jobs existing before the USAID expenditures were added to the economy. This results in the following formula:

$jobs = \left(\frac{\mathrm{UM_y}}{GDP}\right)e_{GDP}E$ or, more compactly, as:

Eq. 1: $jobs = \frac{UM_y e_{GDP} E}{GDP}$.

To sum up, in our calculations for Bulgaria in the main text of the report, we assume a multiplier of 1, an elasticity of 0.5, and the USAID budget, GDP, and employment figures reported in Section III although we assume that only 50 percent of the USAID budget represents in-country expenditures..

APPENDIX D: SELECTED REGRESSION RESULTS

Variables:

Gemp1..... growth of employment = y_t/y_t_1, data from 1991 to 2007. I exclude the year of establishment or last change of ownership.
Gemp2..... growth of employment = ln(y_t)-ln(y_t_1), data from 1991 to 2007. I exclude the year of establishment or last change of ownership.
T ..... 0if did not received USAID help and before the aid, 1 after the help if help from USAID (excluding the help date)
T1 ..... 0 if did not received nonfinancial-USAID help and before the aid, 1 after the help if help from USAID (excluding the help date)
T2 ..... 0 if did not received loan-USAID help and before the aid, 1 after the help if help from USAID (excluding the help date)
T3 ..... 0 if did not received any help after USAID help, 1 if received any help after USAID (excluding the help date)
gdp: gdp growth = log(gdp_t)-log(gdp_t-1), data for 2006 and 2007 is missing
sector..... 0 for agriculture, 1 for industry and 2 for services
exports..... 1 if exports more than 50% of production, 0 otherwise
owner_ed..... 1 if the owner has higher degree, 0 otherwise
employee_ed ..... similar but for employees
foreign..... 1 if at least 1 major partner is foreigner –as in the survey
union ..... 1 if at least 50% of employees are members of a union
mgrskill ..... manager skill–as in the survey
laborav ..... labor force availability–as in the survey
buspremise ..... obtaining business premises–as in the survey
intfin..... internal finance–as in the survey
extfin ..... external finance–as in the survey
inputs..... service inputs–as in the survey
taxes ..... as in the survey
blkmkt ..... gray market–as in the survey
busenv ..... business environment–as in the survey
legaldisp ..... legal disputes–as in the survey
usaid2 ..... 1 if received USAID assistance, 0 otherwise
industry ..... 1 if firm primary sector is industry, 0 otherwise
services..... 1 if firm primary sector is services, 0 otherwise
ebrd1 and
ebrd2: ..... liberalization indexes

Bulgaria: Short-Term Effects of USAID Assistance, All Years[74]

```
regress gemp1 T1 T2  T3
      Source |       SS       df       MS              Number of obs =     257
-------------+------------------------------           F(  3,   253) =    1.16
       Model |  .183541017     3  .061180339           Prob > F      =  0.3254
    Residual |  13.3381159   253  .052719826           R-squared     =  0.0136
-------------+------------------------------           Adj R-squared =  0.0019
       Total |  13.5216569   256  .052818972           Root MSE      =  .22961

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .0674038   .0389891     1.73   0.085    -.0093807    .1441884
          T2 |   .0170516   .0575699     0.30   0.767    -.0963258     .130429
```

[74] Long term is not significant and is not shown.

```
          T3 |   .0309697   .0717244     0.43   0.666    -.1102833    .1722227
       _cons |   1.056482   .0166308    63.53   0.000      1.02373    1.089234
------------------------------------------------------------------------------


regress gemp1 T1 T2  T3 industry services mgrskill buspremise laborav inputs
> blkmkt
Short term Effect of USAID Assistance
      Source |       SS       df       MS              Number of obs =     244
-------------+------------------------------           F( 10,   233) =    3.90
       Model |  1.92943972    10  .192943972           Prob > F      =  0.0001
    Residual |  11.5232456   233   .04945599           R-squared     =  0.1434
-------------+------------------------------           Adj R-squared =  0.1067
       Total |  13.4526853   243  .055360845           Root MSE      =  .22239

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .0669493   .0382435     1.75   0.081     -.008398    .1422966
          T2 |   .0320018    .061502     0.52   0.603    -.0891694     .153173
          T3 |  -.0100717   .0720055    -0.14   0.889    -.1519367    .1317933
    industry |  -.0025055   .0516032    -0.05   0.961     -.104174     .099163
    services |    .019497   .0487608     0.40   0.690    -.0765714    .1155653
    mgrskill |   .0132363   .0209855     0.63   0.529    -.0281093    .0545819
  buspremise |   .0981631   .0210961     4.65   0.000     .0565995    .1397266
     laborav |   .0115637   .0223323     0.52   0.605    -.0324354    .0555628
      inputs |  -.0352284   .0191462    -1.84   0.067    -.0729501    .0024933
      blkmkt |  -.0056507   .0163734    -0.35   0.730    -.0379095    .0266081
       _cons |   1.018633   .0516298    19.73   0.000     .9169123    1.120354
------------------------------------------------------------------------------
```

Bulgaria: Short-Term Effects of USAID Assistance, Post 2000[75]

```
      Source |       SS       df       MS              Number of obs =      20
-------------+------------------------------           F( 12,     7) =    9.49
       Model |  .625075036    12  .052089586           Prob > F      =  0.0032
    Residual |  .038419973     7  .005488568           R-squared     =  0.9421
-------------+------------------------------           Adj R-squared =  0.8428
       Total |  .663495008    19   .03492079           Root MSE      =  .07408

------------------------------------------------------------------------------
       gemp2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .2077648   .0895359     2.32   0.053     -.003954    .4194835
    mgrskill |  -.8275139   .3238316    -2.56   0.038    -1.593254   -.0617738
     laborav |  -.1516762   .1753615    -0.86   0.416    -.5663403    .2629879
  buspremise |   .0241102   .1441865     0.17   0.872    -.3168367    .3650571
      inputs |   .0704664   .1199399     0.59   0.575    -.2131463    .3540791
       taxes |   .0341375   .2082619     0.16   0.874    -.4583236    .5265986
      intfin |   .6430306   .1666416     3.86   0.006     .2489858    1.037075
      extfin |  -.3996441   .1705504    -2.34   0.052    -.8029319    .0036436
      blkmkt |   .0284412   .1151799     0.25   0.812     -.243916    .3007984
         age |  -.0963337   .0381836    -2.52   0.040    -.1866236   -.0060439
        size |   .6623008   .2578207     2.57   0.037     .0526518     1.27195
          pt |  -.1273529   .0363995    -3.50   0.010     -.213424   -.0412818
       _cons |   .8571097   .2675326     3.20   0.015     .2244957    1.489724

regress gemp1 T mgrskill laborav buspremise inputs taxes intfin extfin  blkmk
> t age size pt

      Source |       SS       df       MS              Number of obs =      20
-------------+------------------------------           F( 12,     7) =   13.46
       Model |  1.11302255    12  .092751879           Prob > F      =  0.0011
    Residual |  .048232566     7  .006890367           R-squared     =  0.9585
-------------+------------------------------           Adj R-squared =  0.8873
       Total |  1.16125511    19   .06111869           Root MSE      =  .08301

------------------------------------------------------------------------------
```

[75] Long term is not significant and is not shown.

```
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .2267281   .1003203     2.26   0.058    -.0104918    .4639479
    mgrskill |  -1.021304   .3628365    -2.81   0.026    -1.879276   -.1633323
     laborav |  -.2662914   .1964834    -1.36   0.217    -.7309009    .1983181
  buspremise |   .0774198   .1615535     0.48   0.646    -.3045935     .459433
      inputs |   .1246746   .1343864     0.93   0.384    -.1930986    .4424478
       taxes |   .0181921   .2333466     0.08   0.940     -.533585    .5699691
      intfin |    .784091   .1867132     4.20   0.004     .3425843    1.225598
      extfin |  -.4884472   .1910929    -2.56   0.038    -.9403101   -.0365844
      blkmkt |   .0040456   .1290531     0.03   0.976    -.3011164    .3092077
         age |  -.1067929   .0427827    -2.50   0.041     -.207958   -.0056278
        size |   .9852081   .2888746     3.41   0.011     .3021281    1.668288
          pt |  -.1510361   .0407837    -3.70   0.008    -.2474743   -.0545979
       _cons |   1.946308   .2997563     6.49   0.000     1.237497    2.655119
------------------------------------------------------------------------------
```

Adding ebrd2, T1 is still significant

```
regress gemp1 T1 mgrskill laborav buspremise inputs taxes intfin extfin  blkm
> kt age size pt  gdp ebrd2

      Source |       SS       df       MS              Number of obs =      17
-------------+------------------------------           F( 14,     2) =   31.60
       Model |  1.06776058    14  .076268613           Prob > F      =  0.0311
    Residual |  .004827756     2  .002413878           R-squared     =  0.9955
-------------+------------------------------           Adj R-squared =  0.9640
       Total |  1.07258834    16  .067036771           Root MSE      =  .04913

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .4821254   .1461638     3.30   0.081    -.1467668    1.111018
    mgrskill |   1.541335   .7149635     2.16   0.164    -1.534905    4.617575
     laborav |   11.98034   3.707089     3.23   0.084    -3.969977    27.93065
  buspremise |  -.0813308   .1629307    -0.50   0.667    -.7823649    .6197032
      inputs |  -.7396261   .2712193    -2.73   0.112    -1.906589    .4273365
       taxes |   23.15813   6.944585     3.33   0.079    -6.722008    53.03826
      intfin |   21.09143   6.056888     3.48   0.073     -4.96926    47.15211
      extfin |  -44.32653   13.07531    -3.39   0.077     -100.585    11.93199
      blkmkt |  -.8332967   .2387253    -3.49   0.073    -1.860449    .1938555
         age |  -.2592953   .0692865    -3.74   0.065    -.5574112    .0388206
        size |  -18.71542   5.864904    -3.19   0.086    -43.95007    6.519222
          pt |   .2405275   .1322318     1.82   0.211    -.3284202    .8094752
         gdp |   7.785259   2.091326     3.72   0.065    -1.212991    16.78351
       ebrd2 |   .4456039    .395486     1.13   0.377    -1.256035    2.147243
       _cons |   3.007144   .5864946     5.13   0.036     .4836618    5.530627
------------------------------------------------------------------------------
```

Macedonia: Long-Term Effects of USAID Assistance

```
regress gemp1 T T3 age owner_ed employee_ed  laborav buspremise inputs taxes
> intfin extfin busenv legaldisp blkmkt size pt industry

      Source |       SS       df       MS              Number of obs =     449
-------------+------------------------------           F( 17,   431) =    1.76
       Model |  9.15401203    17  .538471296           Prob > F      =  0.0313
    Residual |  132.136598   431  .306581433           R-squared     =  0.0648
-------------+------------------------------           Adj R-squared =  0.0279
       Total |   141.29061   448  .315380825           Root MSE      =   .5537

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .1702315   .0846623     2.01   0.045     .0038291    .3366338
          T3 |  -.2117653   .1458346    -1.45   0.147    -.4984009    .0748702
         age |  -.0073564   .0028436    -2.59   0.010    -.0129454   -.0017675
    owner_ed |   .0896761   .0780418     1.15   0.251    -.0637137     .243066
 employee_ed |   .0503247   .0753116     0.67   0.504     -.097699    .1983483
     laborav |  -.0051134    .039516    -0.13   0.897    -.0827814    .0725547
  buspremise |  -.0586637   .0509788    -1.15   0.250    -.1588617    .0415343
```

```
      inputs |   .0503875   .0531815     0.95   0.344    -.0541399    .1549149
       taxes |   .0563254   .0451883     1.25   0.213    -.0324914    .1451421
      intfin |   .0270832   .0617878     0.44   0.661    -.0943597     .148526
      extfin |  -.0177871   .0684389    -0.26   0.795    -.1523026    .1167284
      busenv |  -.0967288    .051278    -1.89   0.060    -.1975148    .0040572
   legaldisp |   .0122157   .0373412     0.33   0.744    -.0611779    .0856093
      blkmkt |  -.0522733   .0361466    -1.45   0.149    -.1233189    .0187724
        size |   .0141399   .0119554     1.18   0.238    -.0093583    .0376382
          pt |  -.0039783   .0035609    -1.12   0.265    -.0109771    .0030205
    industry |  -.2019779   .0730731    -2.76   0.006    -.3456019   -.0583539
       _cons |   1.276686   .0897082    14.23   0.000     1.100366    1.453006
```

```
regress gemp1 T T3 age owner_ed employee_ed  mgrskill laborav buspremise inputs taxes intfin
extfin busenv legaldisp blkmkt size pt services


     Source |       SS       df       MS              Number of obs =     449
-------------+------------------------------           F( 18,   430) =    1.63
       Model |  9.02593528    18  .501440849           Prob > F      =  0.0495
    Residual |  132.264674   430  .307592266           R-squared     =  0.0639
-------------+------------------------------           Adj R-squared =  0.0247
       Total |   141.29061   448  .315380825           Root MSE      =  .55461

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .1677153   .0847612     1.98   0.048     .0011176     .334313
          T3 |  -.2119037    .146183    -1.45   0.148    -.4992257    .0754183
         age |  -.0075828     .00293    -2.59   0.010    -.0133418   -.0018238
    owner_ed |   .0830509    .077962     1.07   0.287    -.0701831    .2362848
 employee_ed |   .0576038   .0771241     0.75   0.456    -.0939834     .209191
    mgrskill |  -.0087231   .0204319    -0.43   0.670    -.0488819    .0314357
     laborav |  -.0022647   .0396167    -0.06   0.954    -.0801311    .0756017
  buspremise |  -.0517953   .0506526    -1.02   0.307    -.1513528    .0477622
      inputs |   .0517501   .0535123     0.97   0.334     -.053428    .1569283
       taxes |   .0626641   .0452815     1.38   0.167    -.0263365    .1516648
      intfin |   .0336733    .062452     0.54   0.590    -.0890758    .1564224
      extfin |  -.0240316   .0687175    -0.35   0.727    -.1590956    .1110323
      busenv |  -.0878967   .0520067    -1.69   0.092    -.1901157    .0143223
   legaldisp |   .0095548   .0397292     0.24   0.810    -.0685329    .0876424
      blkmkt |  -.0473629   .0371032    -1.28   0.202     -.120289    .0255632
        size |   .0137775   .0121354     1.14   0.257    -.0100746    .0376295
          pt |  -.0038633   .0035932    -1.08   0.283    -.0109258    .0031991
    services |    .198983   .0774636     2.57   0.011     .0467286    .3512374
       _cons |   1.070304   .0652942    16.39   0.000     .9419682    1.198639
------------------------------------------------------------------------------


regress gemp1 T T3 age owner_ed employee_ed  mgrskill laborav buspremise inputs taxes intfin
extfin busenv legaldisp blkmkt size services

      Source |       SS       df       MS              Number of obs =    1344
-------------+------------------------------           F( 17,  1326) =    2.02
       Model |  14.4709411    17   .85123183           Prob > F      =  0.0083
    Residual |  559.428435  1326  .421891731           R-squared     =  0.0252
-------------+------------------------------           Adj R-squared =  0.0127
       Total |  573.899376  1343  .427326416           Root MSE      =  .64953

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .1291344   .0584054     2.21   0.027     .0145574    .2437115
          T3 |  -.1113736   .0947059    -1.18   0.240    -.2971634    .0744162
         age |  -.0076422   .0021022    -3.64   0.000    -.0117662   -.0035181
    owner_ed |   .0535338   .0497697     1.08   0.282    -.0441022    .1511699
 employee_ed |   .0578351   .0472428     1.22   0.221    -.0348436    .1505138
    mgrskill |   .0062032   .0103262     0.60   0.548    -.0140543    .0264607
     laborav |  -.0085874   .0212301    -0.40   0.686    -.0502356    .0330607
  buspremise |   -.028719   .0254651    -1.13   0.260    -.0786752    .0212372
      inputs |   .0428137    .028562     1.50   0.134    -.0132179    .0988453
```

```
       taxes |   .0070577   .0242009     0.29   0.771    -.0404184    .0545339
      intfin |  -.0018888   .0214732    -0.09   0.930     -.044014    .0402364
      extfin |   .0291261   .0227447     1.28   0.201    -.0154935    .0737457
      busenv |  -.0460736   .0240441    -1.92   0.056    -.0932423    .0010951
   legaldisp |  -.0192235   .0146596    -1.31   0.190    -.0479819     .009535
      blkmkt |   .0049823   .0203498     0.24   0.807     -.034939    .0449035
        size |   .0142936   .0078552     1.82   0.069    -.0011164    .0297036
    services |  -.0033261   .0392034    -0.08   0.932    -.0802335    .0735814
       _cons |   1.081308   .0492017    21.98   0.000     .9847865     1.17783
------------------------------------------------------------------------------


regress gemp1 T T3 age owner_ed employee_ed  mgrskill laborav buspremise inputs taxes intfin
extfin busenv legaldisp blkmkt size industry

      Source |       SS       df       MS              Number of obs =    1344
-------------+------------------------------           F( 17,  1326) =    2.02
       Model |  14.4758352    17  .851519719           Prob > F      =  0.0082
    Residual |  559.423541  1326   .42188804           R-squared     =  0.0252
-------------+------------------------------           Adj R-squared =  0.0127
       Total |  573.899376  1343  .427326416           Root MSE      =  .64953

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |    .128728   .0585252     2.20   0.028     .0139159    .2435401
          T3 |  -.1111127   .0945773    -1.17   0.240    -.2966502    .0744247
         age |  -.0076281   .0021058    -3.62   0.000    -.0117592    -.003497
    owner_ed |    .053782   .0497191     1.08   0.280    -.0437547    .1513188
 employee_ed |   .0579197   .0472001     1.23   0.220    -.0346753    .1505148
    mgrskill |   .0062457   .0102434     0.61   0.542    -.0138493    .0263407
     laborav |  -.0085192   .0212383    -0.40   0.688    -.0501835     .033145
  buspremise |   -.028706   .0254227    -1.13   0.259    -.0785792    .0211672
      inputs |   .0427992   .0285136     1.50   0.134    -.0131374    .0987359
       taxes |   .0071068   .0242011     0.29   0.769    -.0403699    .0545835
      intfin |  -.0018997    .021374    -0.09   0.929    -.0438301    .0400308
      extfin |   .0291101   .0227425     1.28   0.201    -.0155051    .0737254
      busenv |  -.0460317   .0240301    -1.92   0.056    -.0931729    .0011095
   legaldisp |  -.0190635   .0146385    -1.30   0.193    -.0477806    .0096536
      blkmkt |   .0052231   .0204427     0.26   0.798    -.0348805    .0453267
        size |   .0143089   .0078088     1.83   0.067    -.0010101    .0296279
    industry |   .0053664   .0391402     0.14   0.891    -.0714171    .0821499
       _cons |   1.076157   .0572468    18.80   0.000     .9638533    1.188462
------------------------------------------------------------------------------

regress gemp1 T1 T2 T3 age owner_ed employee_ed  mgrskill laborav buspremise
 inputs taxes intfin extfin busenv legaldisp blkmkt size industry

      Source |       SS       df       MS              Number of obs =    1344
-------------+------------------------------           F( 18,  1325) =    1.93
       Model |  14.6738696    18  .815214976           Prob > F      =  0.0108
    Residual |  559.225507  1325  .422056986           R-squared     =  0.0256
-------------+------------------------------           Adj R-squared =  0.0123
       Total |  573.899376  1343  .427326416           Root MSE      =  .64966

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .1385187    .060261     2.30   0.022     .0203014     .256736
          T2 |  -.0236847   .1227331    -0.19   0.847    -.2644571    .2170878
          T3 |   -.108229   .0981844    -1.10   0.271    -.3008429    .0843849
         age |  -.0077154   .0021108    -3.66   0.000    -.0118562   -.0035745
    owner_ed |   .0561096   .0496978     1.13   0.259    -.0413854    .1536045
 employee_ed |   .0571416   .0472269     1.21   0.227     -.035506    .1497893
    mgrskill |   .0070328   .0102926     0.68   0.495    -.0131588    .0272244
     laborav |  -.0097046   .0213026    -0.46   0.649    -.0514952     .032086
  buspremise |  -.0297813   .0254719    -1.17   0.243     -.079751    .0201883
      inputs |   .0439827   .0285786     1.54   0.124    -.0120815    .1000469
       taxes |   .0075221   .0242129     0.31   0.756    -.0399778     .055022
      intfin |  -.0021998   .0213729    -0.10   0.918    -.0441282    .0397286
      extfin |   .0294118   .0227483     1.29   0.196    -.0152148    .0740384
```

```
      busenv |  -.0480291   .0241731    -1.99   0.047    -.0954508   -.0006074
   legaldisp |  -.0192565   .0146465    -1.31   0.189    -.0479894    .0094763
      blkmkt |   .0045977   .0204276     0.23   0.822    -.0354764    .0446717
        size |   .0141496   .0078138     1.81   0.070    -.0011792    .0294784
    industry |   .0066274   .0391979     0.17   0.866    -.0702694    .0835242
       _cons |   1.077698   .0572757    18.82   0.000     .9653375    1.190059
```

Macedonia: Short-Term Effects of USAID Assistance

```
regress gemp1 T1 T2 T3 age  size  pt services mgrskill busenv employee_ed ext
> fin intfin laborav inputs taxes legaldisp blkmkt

      Source |       SS       df       MS              Number of obs =     122
-------------+------------------------------           F( 17,   104) =    2.35
       Model |  30.4544146    17  1.79143615           Prob > F      =  0.0043
    Residual |   79.152701   104  .761083663           R-squared     =  0.2779
-------------+------------------------------           Adj R-squared =  0.1598
       Total |  109.607116   121   .90584393           Root MSE      =   .8724

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .4464422   .2267544     1.97   0.052    -.0032202    .8961046
          T2 |   .3160057   .3641188     0.87   0.387    -.4060555    1.038067
          T3 |   -.716893   .4437853    -1.62   0.109    -1.596936    .1631498
         age |  -.0530517   .0141678    -3.74   0.000     -.081147   -.0249563
        size |  -.1196756   .0678289    -1.76   0.081     -.254183    .0148317
          pt |  -.0106175   .0112201    -0.95   0.346    -.0328674    .0116324
    services |   1.194686   .3144899     3.80   0.000      .571041    1.818331
    mgrskill |   .2206699   .0854819     2.58   0.011     .0511561    .3901838
      busenv |    .013122   .1753077     0.07   0.940    -.3345196    .3607637
 employee_ed |   .7203195   .2348914     3.07   0.003      .254521    1.186118
      extfin |   .3640976   .2492478     1.46   0.147    -.1301701    .8583653
      intfin |  -.3525039   .2424746    -1.45   0.149    -.8333402    .1283324
     laborav |   -.267131    .155438    -1.72   0.089    -.5753705    .0411085
      inputs |  -.3567039   .1442998    -2.47   0.015    -.6428558   -.0705521
       taxes |  -.0011109   .1501152    -0.01   0.994     -.298795    .2965733
   legaldisp |  -.1358765   .1470366    -0.92   0.358    -.4274555    .1557025
      blkmkt |  -.4322871   .1179433    -3.67   0.000    -.6661731    -.198401
       _cons |    1.75448   .2419298     7.25   0.000     1.274724    2.234236
------------------------------------------------------------------------------


regress gemp1 T1 T2 T3 age  size  pt industry mgrskill busenv employee_ed ext
> fin intfin laborav inputs taxes legaldisp blkmkt

      Source |       SS       df       MS              Number of obs =     122
-------------+------------------------------           F( 17,   104) =    2.35
       Model |  30.4544146    17  1.79143615           Prob > F      =  0.0043
    Residual |   79.152701   104  .761083663           R-squared     =  0.2779
-------------+------------------------------           Adj R-squared =  0.1598
       Total |  109.607116   121   .90584393           Root MSE      =   .8724

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .4464422   .2267544     1.97   0.052    -.0032202    .8961046
          T2 |   .3160057   .3641188     0.87   0.387    -.4060555    1.038067
          T3 |   -.716893   .4437853    -1.62   0.109    -1.596936    .1631498
         age |  -.0530517   .0141678    -3.74   0.000     -.081147   -.0249563
        size |  -.1196756   .0678289    -1.76   0.081     -.254183    .0148317
          pt |  -.0106175   .0112201    -0.95   0.346    -.0328674    .0116324
    industry |  -1.194686   .3144899    -3.80   0.000    -1.818331    -.571041
    mgrskill |   .2206699   .0854819     2.58   0.011     .0511561    .3901838
      busenv |    .013122   .1753077     0.07   0.940    -.3345196    .3607637
 employee_ed |   .7203195   .2348914     3.07   0.003      .254521    1.186118
      extfin |   .3640976   .2492478     1.46   0.147    -.1301701    .8583653
      intfin |  -.3525039   .2424746    -1.45   0.149    -.8333402    .1283324
     laborav |   -.267131    .155438    -1.72   0.089    -.5753705    .0411085
      inputs |  -.3567039   .1442998    -2.47   0.015    -.6428558   -.0705521
```

```
       taxes |  -.0011109   .1501152    -0.01   0.994     -.298795    .2965733
   legaldisp |  -.1358765   .1470366    -0.92   0.358    -.4274555    .1557025
      blkmkt |  -.4322871   .1179433    -3.67   0.000    -.6661731    -.198401
       _cons |   2.949166   .4317908     6.83   0.000     2.092909    3.805423
------------------------------------------------------------------------------

regress gemp1 T1 T2 T3 age  size  pt industry mgrskill busenv employee_ed extfin intfin laborav
inputs taxes legaldisp blkmkt gdp

      Source |       SS       df       MS              Number of obs =      95
-------------+------------------------------           F( 18,    76) =    2.16
       Model |  3.53596422    18  .196442457           Prob > F      =  0.0109
    Residual |   6.9158316    76  .090997784           R-squared     =  0.3383
-------------+------------------------------           Adj R-squared =  0.1816
       Total |  10.4517958    94  .111189317           Root MSE      =  .30166

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .1821694   .1027415     1.77   0.080    -.0224581    .3867969
          T2 |  -.1275478   .2641624    -0.48   0.631    -.6536728    .3985772
          T3 |   -.107233    .184016    -0.58   0.562    -.4737326    .2592666
         age |  -.0120292    .006072    -1.98   0.051    -.0241226    .0000642
        size |   .0198883   .0331614     0.60   0.550    -.0461584    .0859351
          pt |   .0007197   .0047763     0.15   0.881     -.008793    .0102325
    industry |  -.2187107   .1416079    -1.54   0.127    -.5007473     .063326
    mgrskill |  -.0214632   .0351266    -0.61   0.543    -.0914239    .0484975
      busenv |   .2688751   .0898163     2.99   0.004     .0899903    .4477598
 employee_ed |  -.0193076   .1073654    -0.18   0.858    -.2331443    .1945291
      extfin |   -.086243   .1127714    -0.76   0.447    -.3108468    .1383607
      intfin |  -.0063868   .1043314    -0.06   0.951    -.2141807    .2014071
     laborav |  -.0293674   .0639681    -0.46   0.647    -.1567709    .0980361
      inputs |  -.0903512   .0627291    -1.44   0.154     -.215287    .0345846
       taxes |   .2158267   .0718139     3.01   0.004     .0727969    .3588566
   legaldisp |  -.2112509   .0602076    -3.51   0.001    -.3311646   -.0913372
      blkmkt |  -.0214839   .0533477    -0.40   0.688     -.127735    .0847672
         gdp |   2.031276   1.665549     1.22   0.226    -1.285953    5.348504
       _cons |    1.37651   .1978328     6.96   0.000     .9824918    1.770528
------------------------------------------------------------------------------
regress gemp1 T1 T2 T3 age  size  pt industry mgrskill busenv employee_ed ext
> fin intfin laborav inputs taxes legaldisp blkmkt gdp ebrd1 ebrd2

      Source |       SS       df       MS              Number of obs =      95
-------------+------------------------------           F( 20,    74) =    1.98
       Model |  3.64882984    20  .182441492           Prob > F      =  0.0180
    Residual |  6.80296598    74  .091931973           R-squared     =  0.3491
-------------+------------------------------           Adj R-squared =  0.1732
       Total |  10.4517958    94  .111189317           Root MSE      =   .3032

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .2061246   .1065289     1.93   0.057    -.0061388    .4183879
          T2 |  -.0997176   .2670659    -0.37   0.710     -.631858    .4324228
          T3 |  -.1156942   .1875003    -0.62   0.539    -.4892966    .2579082
         age |  -.0102023   .0064691    -1.58   0.119    -.0230923    .0026877
        size |   .0212188   .0335499     0.63   0.529    -.0456309    .0880685
          pt |  -.0004344   .0049205    -0.09   0.930    -.0102388      .00937
    industry |   -.249512   .1464727    -1.70   0.093    -.5413652    .0423412
    mgrskill |   -.013112   .0369214    -0.36   0.724    -.0866795    .0604556
      busenv |   .2865411   .0916773     3.13   0.003     .1038701     .469212
 employee_ed |  -.0160699   .1087813    -0.15   0.883    -.2328214    .2006816
      extfin |  -.0367207   .1307921    -0.28   0.780    -.2973297    .2238883
      intfin |  -.0573401   .1248236    -0.46   0.647    -.3060566    .1913763
     laborav |  -.0300757   .0645531    -0.47   0.643    -.1587007    .0985492
      inputs |  -.0919454   .0630748    -1.46   0.149    -.2176248    .0337339
       taxes |   .2135919   .0728627     2.93   0.004     .0684099     .358774
   legaldisp |  -.2235618   .0615491    -3.63   0.001     -.346201   -.1009225
      blkmkt |  -.0085766   .0551185    -0.16   0.877    -.1184026    .1012494
         gdp |   2.610699   2.454571     1.06   0.291    -2.280141    7.501539
       ebrd1 |  -.6021344   .8061583    -0.75   0.457     -2.20844    1.004171
```

```
       ebrd2 |   .5446066   .4994087     1.09   0.279    -.4504869      1.5397
       _cons |   2.503819   2.646176     0.95   0.347    -2.768802     7.77644
```

```
regress gemp1 T  age union foreign employee_ed owner_ed exports blkmkt legald
> isp busenv extfin intfin taxes inputs buspremise laborav mgrskill size pt ind
> ustry

      Source |       SS       df       MS              Number of obs =     358
-------------+------------------------------           F( 20,   337) =    1.78
       Model |  12.2064988    20  .610324938           Prob > F      =  0.0220
    Residual |  115.814653   337  .343663658           R-squared     =  0.0953
-------------+------------------------------           Adj R-squared =  0.0417
       Total |  128.021152   357  .358602666           Root MSE      =  .58623

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .1834757   .0939875     1.95   0.052    -.0014003    .3683517
         age |  -.0105435   .0032213    -3.27   0.001    -.0168798   -.0042072
       union |   .1487962   .1397977     1.06   0.288    -.1261898    .4237821
     foreign |   .2771414   .2025516     1.37   0.172    -.1212834    .6755662
 employee_ed |   .2065094   .1009727     2.05   0.042     .0078932    .4051255
    owner_ed |   .0573391    .096468     0.59   0.553    -.1324161    .2470943
     exports |  -.2211596   .1025737    -2.16   0.032    -.4229249   -.0193943
      blkmkt |  -.1026257   .0511878    -2.00   0.046    -.2033136   -.0019378
   legaldisp |   .0143796    .055348     0.26   0.795    -.0944916    .1232507
      busenv |   -.142199   .0702297    -2.02   0.044    -.2803429   -.0040552
      extfin |     .05082   .1007596     0.50   0.614     -.147377    .2490171
      intfin |  -.1155747   .0791785    -1.46   0.145     -.271321    .0401716
       taxes |    .046302   .0657613     0.70   0.482    -.0830524    .1756564
      inputs |   .0822119   .0701143     1.17   0.242    -.0557048    .2201286
  buspremise |  -.1010828   .0637372    -1.59   0.114    -.2264556      .02429
     laborav |   .0060075   .0503698     0.12   0.905    -.0930714    .1050864
    mgrskill |  -.0183069   .0246268    -0.74   0.458    -.0667484    .0301346
        size |   .0150069   .0149017     1.01   0.315    -.0143051     .044319
          pt |  -.0226309   .0246557    -0.92   0.359    -.0711294    .0258677
    industry |  -.3580568   .1336463    -2.68   0.008    -.6209429   -.0951707
       _cons |     1.5253   .1623406     9.40   0.000     1.205972    1.844629
------------------------------------------------------------------------------
```

```
regress gemp1 T  services  age union foreign employee_ed owner_ed exports blk
> mkt legaldisp busenv extfin intfin taxes inputs buspremise laborav mgrskill s
> ize

      Source |       SS       df       MS              Number of obs =    1167
-------------+------------------------------           F( 19,  1147) =    1.84
       Model |  16.0844868    19  .846551936           Prob > F      =  0.0155
    Residual |  528.900053  1147  .461116001           R-squared     =  0.0295
-------------+------------------------------           Adj R-squared =  0.0134
       Total |  544.984539  1166  .467396689           Root MSE      =  .67906

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .1084039   .0562154     1.93   0.054    -.0018926    .2187005
    services |   -.032308   .0464943    -0.69   0.487    -.1235313    .0589154
         age |  -.0077979   .0024096    -3.24   0.001    -.0125256   -.0030701
       union |  -.0607411   .1032685    -0.59   0.557    -.2633574    .1418753
     foreign |   -.072546    .091998    -0.79   0.431    -.2530493    .1079573
 employee_ed |   .0921833   .0550931     1.67   0.095    -.0159113    .2002778
    owner_ed |   .0605263   .0581318     1.04   0.298    -.0535303    .1745828
     exports |   -.052879   .0518586    -1.02   0.308    -.1546273    .0488693
      blkmkt |   .0016223   .0251299     0.06   0.949    -.0476834    .0509281
   legaldisp |  -.0144027   .0160924    -0.90   0.371    -.0459765     .017171
      busenv |  -.0542067   .0275626    -1.97   0.049    -.1082855   -.0001279
      extfin |   .0548123    .028631     1.91   0.056    -.0013627    .1109872
      intfin |  -.0155853   .0251012    -0.62   0.535    -.0648346    .0336641
       taxes |   .0108857   .0283403     0.38   0.701    -.0447189    .0664904
      inputs |   .0309729   .0329469     0.94   0.347      -.03367    .0956157
```

```
  buspremise |  -.0459353   .0300577    -1.53   0.127    -.1049096    .0130391
     laborav |  -.0008656   .0239913    -0.04   0.971    -.0479373    .0462061
    mgrskill |   .0035898   .0115853     0.31   0.757    -.0191409    .0263206
        size |   .0219155   .0109755     2.00   0.046     .0003812    .0434497
       _cons |   1.080641   .0616486    17.53   0.000     .9596839    1.201597
------------------------------------------------------------------------------

regress gemp1 T1  age union foreign employee_ed owner_ed exports blkmkt legal
> disp busenv extfin intfin taxes inputs buspremise laborav mgrskill size pt in
> dustry

      Source |       SS       df       MS              Number of obs =     358
-------------+------------------------------           F( 20,   337) =    1.86
       Model |  12.7088434    20  .635442171           Prob > F      =  0.0147
    Residual |  115.312308   337  .342173021           R-squared     =  0.0993
-------------+------------------------------           Adj R-squared =  0.0458
       Total |  128.021152   357  .358602666           Root MSE      =  .58496

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .2245474   .0975784     2.30   0.022     .0326078    .4164869
         age |  -.0108306   .0032087    -3.38   0.001    -.0171422   -.0045191
       union |   .1413701   .1393161     1.01   0.311    -.1326685    .4154088
     foreign |   .2808307   .2020876     1.39   0.166    -.1166814    .6783427
 employee_ed |   .1975825    .100414     1.97   0.050     .0000653    .3950996
    owner_ed |   .0643281   .0951654     0.68   0.500    -.1228649    .2515212
     exports |  -.2109457   .1026125    -2.06   0.041    -.4127874   -.0091039
      blkmkt |  -.1049764   .0511135    -2.05   0.041    -.2055181   -.0044347
   legaldisp |   .0152458   .0552319     0.28   0.783    -.0933968    .1238885
      busenv |  -.1468742   .0700309    -2.10   0.037    -.2846269   -.0091214
      extfin |   .0465976   .1005326     0.46   0.643    -.1511529    .2443481
      intfin |  -.1134299   .0788257    -1.44   0.151    -.2684823    .0416226
       taxes |    .056573   .0661637     0.86   0.393    -.0735728    .1867189
      inputs |   .0817955   .0699517     1.17   0.243    -.0558014    .2193924
  buspremise |  -.1023156   .0635856    -1.61   0.109    -.2273903    .0227592
     laborav |  -.0013833   .0506292    -0.03   0.978    -.1009724    .0982059
    mgrskill |  -.0148882    .024715    -0.60   0.547    -.0635033    .0337269
        size |   .0143519   .0148788     0.96   0.335    -.0149151    .0436188
          pt |  -.0253207   .0247022    -1.03   0.306    -.0739106    .0232691
    industry |  -.3490048   .1325098    -2.63   0.009    -.6096555   -.0883542
       _cons |    1.51996   .1612568     9.43   0.000     1.202764    1.837157
------------------------------------------------------------------------------
```

Kyrgyzstan: Short-Term Effects of USAID Assistance[76]

Short term Effect of USAID Assistance (T not significant)

```
regress gemp1 T T3 age  size  pt industry mgrskill busenv employee_ed extfin
> intfin laborav inputs taxes legaldisp blkmkt gdp ebrd1 ebrd2

      Source |       SS       df       MS              Number of obs =    1129
-------------+------------------------------           F( 19,  1109) =    1.67
       Model |  33.6049871    19  1.76868353           Prob > F      =  0.0350
    Residual |  1173.00943  1109  1.05771816           R-squared     =  0.0279
-------------+------------------------------           Adj R-squared =  0.0112
       Total |  1206.61442  1128  1.06969364           Root MSE      =  1.0285

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           T |   .0965599   .5993537     0.16   0.872    -1.079435    1.272555
          T3 |  -.1860772   .6899059    -0.27   0.787    -1.539745    1.167591
         age |  -.0015329   .0014379    -1.07   0.287    -.0043543    .0012885
        size |   .0313648   .0126478     2.48   0.013     .0065485     .056181
          pt |   .1116342   .0745198     1.50   0.134    -.0345816      .25785
    industry |  -.0738047    .072006    -1.02   0.306     -.215088    .0674787
```

[76] Long term is not significant and is not shown.

```
    mgrskill |   .0652579   .0415086     1.57   0.116    -.0161863    .1467022
      busenv |   .0309315   .0439458     0.70   0.482    -.0552949    .1171578
 employee_ed |  -.0863403   .1209636    -0.71   0.476    -.3236837    .1510031
      extfin |  -.0545507   .0389044    -1.40   0.161    -.1308852    .0217838
      intfin |   -.090056    .044601    -2.02   0.044    -.1775678   -.0025441
     laborav |  -.0126009   .0448755    -0.28   0.779    -.1006513    .0754495
      inputs |   .0022044   .0394199     0.06   0.955    -.0751416    .0795504
       taxes |   .0063532   .0413537     0.15   0.878    -.0747871    .0874934
   legaldisp |  -.0058385   .0492155    -0.12   0.906    -.1024045    .0907274
      blkmkt |   .0400899   .0427946     0.94   0.349    -.0438776    .1240575
         gdp |   .4877259   .6632343     0.74   0.462    -.8136096    1.789061
       ebrd1 |   .0207742   .1904979     0.11   0.913    -.3530028    .3945512
       ebrd2 |  -.5972518   .4660435    -1.28   0.200    -1.511678    .3171746
       _cons |   2.281888   .4037713     5.65   0.000     1.489646     3.07413
------------------------------------------------------------------------------


regress gemp1 T1 T2 T3 age  size  pt industry mgrskill busenv employee_ed ext
> fin intfin laborav inputs taxes legaldisp blkmkt gdp ebrd1 ebrd2

      Source |       SS       df       MS              Number of obs =    1129
-------------+------------------------------           F( 20,  1108) =    1.59
       Model |  33.6979403    20  1.68489702           Prob > F      =  0.0473
    Residual |  1172.91648  1108  1.05858888           R-squared     =  0.0279
-------------+------------------------------           Adj R-squared =  0.0104
       Total |  1206.61442  1128  1.06969364           Root MSE      =  1.0289

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |   .0986578   .5996421     0.16   0.869    -1.077904     1.27522
          T2 |   -.121123   .9482455    -0.13   0.898    -1.981682    1.739436
          T3 |  -.0424077   .8434624    -0.05   0.960    -1.697371    1.612556
         age |  -.0015416   .0014388    -1.07   0.284    -.0043648    .0012815
        size |   .0312347   .0126606     2.47   0.014     .0063933    .0560761
          pt |   .1130163   .0746963     1.51   0.131    -.0335458    .2595783
    industry |  -.0729963   .0720873    -1.01   0.311    -.2144393    .0684466
    mgrskill |   .0657073   .0415534     1.58   0.114    -.0158248    .1472395
      busenv |   .0319475   .0440974     0.72   0.469    -.0545764    .1184715
 employee_ed |  -.0861503   .1210151    -0.71   0.477    -.3235949    .1512943
      extfin |  -.0555972   .0390803    -1.42   0.155    -.1322769    .0210825
      intfin |  -.0902964   .0446267    -2.02   0.043    -.1778588    -.002734
     laborav |  -.0121783   .0449166    -0.27   0.786    -.1003094    .0759529
      inputs |   .0025543   .0394538     0.06   0.948    -.0748583    .0799669
       taxes |    .005553   .0414587     0.13   0.893    -.0757935    .0868994
   legaldisp |  -.0054135   .0492566    -0.11   0.913    -.1020603    .0912333
      blkmkt |   .0394336   .0428695     0.92   0.358    -.0446809    .1235482
         gdp |   .4843734   .6636037     0.73   0.466    -.8176882    1.786435
       ebrd1 |   .0206469   .1905768     0.11   0.914    -.3532852     .394579
       ebrd2 |  -.5964937   .4662423    -1.28   0.201    -1.511311    .3183237
       _cons |   2.281499   .4039396     5.65   0.000     1.488926    3.074071
------------------------------------------------------------------------------
```

Even after **dropping data prior to 2000,** the T's are non-significant.

```
regress gemp1 T1 T2 T3 age  size  pt industry mgrskill busenv employee_ed ext
> fin intfin laborav inputs

      Source |       SS       df       MS              Number of obs =    1063
-------------+------------------------------           F( 14,  1048) =    2.27
       Model |  11.8431735    14  .845940964           Prob > F      =  0.0048
    Residual |  391.169093  1048  .373252951           R-squared     =  0.0294
-------------+------------------------------           Adj R-squared =  0.0164
       Total |  403.012266  1062  .379484243           Root MSE      =  .61094

------------------------------------------------------------------------------
       gemp1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          T1 |  -.0220395   .1337153    -0.16   0.869    -.2844196    .2403407
          T2 |  -.0422616    .256713    -0.16   0.869    -.5459917    .4614684
```

T3	-.0506906	.2210014	-0.23	0.819	-.4843462	.382965
age	**-.0023258**	**.0009406**	**-2.47**	**0.014**	**-.0041714**	**-.0004803**
size	**.0259049**	**.0069616**	**3.72**	**0.000**	**.0122448**	**.0395651**
pt	-.0144684	.0484932	-0.30	0.765	-.1096233	.0806865
industry	-.053711	.0417966	-1.29	0.199	-.1357257	.0283036
mgrskill	.0241156	.0246736	0.98	0.329	-.0242997	.0725309
busenv	**.0477973**	**.0262745**	**1.82**	**0.069**	**-.0037592**	**.0993539**
employee_ed	-.0992198	.0705363	-1.41	0.160	-.2376283	.0391887
extfin	-.0085596	.0235414	-0.36	0.716	-.0547532	.0376341
intfin	-.0255583	.0241147	-1.06	0.289	-.072877	.0217603
laborav	-.0253303	.0265585	-0.95	0.340	-.0774442	.0267837
inputs	.0253807	.0236799	1.07	0.284	-.0210847	.0718461
_cons	1.176067	.077676	15.14	0.000	1.023649	1.328485

APPENDIX E: SURVEY QUESTIONNAIRE (ENGLISH VERSION)

Impact of Foreign Assistance on Job Creation in Kyrgyzstan
(SURVEY FORM)

N1. Interview Number: ☐☐☐☐ ☐☐
Interviewer Contact number (this interviewer)

N2. Contact Number: ☐☐☐

Interviewer Name	

My name is _____. I am from the XXX Research company in XXX. We greatly appreciate your willingness to participate in this important short survey. A large number of randomly selected firms (businesses) that both have received and have not received financial or technical assistance are participating in this survey. Please fill out this questionnaire to the best of your ability. All information gathered in this survey will be considered confidential and will be used SOLELY for the purpose of providing aggregate figures. All participating firms and organizations will remain anonymous. Neither your name nor the name of your firm or organization will be reported in any report or document published in connection with this project. Completed survey questionnaires will not be shared with other respondents, with USAID, or with any other organization other than XXX.

XXX, July-August 2007.

Please first provide general information about the firm (organization):

A1. FIRM/ORGANIZATION NAME:

_____

A2. YEAR AND MONTH THE FIRM/ORGANIZATION WAS ESTABLISHED:

A2a. Year: ☐☐☐☐ A2b. Month: ☐☐ *9999 Don't know/No response*

A3. ADDRESS OF MAIN LOCATION OF FIRM/ORGANIZATION

_____

_____

A4. TELEPHONE (FIXED OR MOBILE): _____

A5. FAX: _____

A6. E-MAIL: _____

A7. IF CHANGED MAIN LOCATION, PREVIOUS ADDRESS(ES) AND YEAR(S) CHANGED:

A7a1: Address:_____ A7b1: Year: ☐☐☐☐

A7a2: Address:_____ A7b2: Year: ☐☐☐☐

9998 Never changed *9999 Don't know/ No response*

A8. TOTAL NUMBER OF CURRENT LOCATIONS (INCLUDING MAIN OFFICE)

☐☐☐ *9999 Don't know / No response*

A9. POSITION OF PERSON PROVIDING THE INFORMATION

_____ *9 No response/ Refusal*

A10. YEAR WHEN HE/SHE JOINED THE FIRM/ORGANIZATION

☐☐☐☐ *9999 No response / Refusal*

A11A. WHAT IS THE LEGAL REGISTRATION STATUS OF THE FIRM/ORGANIZATION ?

Please choose one answer for column A11A_1 and one for column A11A_2.

	A11A_1	A11A_2
1	Sole proprietorship	
2	Private partnership	*AA. Please indicate number of partners*: ☐☐
3	Limited Liability Company (OOO)	*AB.Please indicate the number of partners*: 1) 1 - 5; 2) 6 - 20; 3) More than 20
4	Joint Stock Company (AO)	
5	Cooperative	
6	Non-Governmental Organization (NGO)	
7	*Other (please indicate)*	
9	*No response / Refusal*	

A11B. IS THERE STATE OR MUNICIPAL PARTICIPATION IN THE FIRM/ORGANIZATION?

Please choose one

1 Yes
2 No
9 No response / Refusal

A12. IF THE FIRM HAS CHANGED OWNERSHIP TYPE, INDICATE THE PREVIOUS OWNERSHIP TYPE AND THE YEAR OF THE CHANGE:

Indicate ownership type in column A12a, and year of the change in column A12b

	A12a. Previous Ownership Type	*A12b. Year of change*
1	***Private - single owner***	
2	***Private – Partnership***	
3	***Stock company/ corporation/ limited liability company***	☐☐☐☐
4	***Cooperative***	
5	***Wholly or partially state-owned***	
98	**No change ownership type**	
99	**No response / Refusal**	

A13. CURRENTLY, IS THE OWNER, ANY PARTNER, OR ANY IMPORTANT SHAREHOLDER IN THE FIRM/ORGNAZATION A FOREIGN CITIZEN OR COMPANY?

Choose one.

1	***Yes***
2	***No***
9	**Don't know/ No response**

A14. IS YOUR FIRM/ORGANIZATION FOR PROFIT OR NOT-FOR-PROFIT?

Choose one.

1	***For profit***
2	***Not for profit***
9	**No response/ Refusal**

A15. IF FIRM/ORGANIZATION CHANGED STATUS FROM PROFIT TO NOT-FOR-PROFIT OR VICE VERSA, INDICATE YEAR OF CHANGE:

☐☐☐☐ *9998 No change*

9999 *Don't know / No response*

A16. IS THE FIRM/ORGANIZATION THE RESULT OF A MERGER OF ONE OR MORE OTHER FIRMS/ORGANIZATIONS?

Choose one.

1	***Yes***	☐☐☐☐ ***year of last merger)***
2	***No***	
9	**Don't know / No response**	

A17. DID THE FIRM/ORGANIZATION RESULT FROM THE SPLIT OR DISSOLUTION OF ANOTHER BUSINESS?.

Choose one.

1	***Yes***	☐☐☐☐ ***(year of last split)***
2	***No***	
9	**Don't know / No response**	

A18. IN WHAT SECTOR OR SECTORS OF THE ECONOMY DOES YOUR FIRM/ORGANIZATION CONDUCT MOSTE OF ITS ACTIVITIES? PLEASE IDENTIFY UP TO THREE SECTORS FROM THE LIST BELOW, RANKING THEM 1 (MOST ACTIVITIES), 2, AND 3.

Fill in numbers from list.

Sector 1: ☐☐ | Sector 2: ☐☐ Sector 3: ☐☐

Manufacturing of …

10. Food products, beverages & tobacco products
11. Textiles and textile products
12. Tanning and dressing of leather, manufacture of luggage, handbags, saddlerly, harness and footwear
13. Wood and products of wood and cork except furniture; manufacture of articles of straw and plaiting materials
14. Pulp, paper, paper products, printing & publishing
15. Coke, refined petroleum products
16. Chemicals and chemical products

17. Rubber and plastics products
18. Other non-metallic mineral products
19. Basic metals and fabricated metal products (except machinery & equipment)
20. Machinery and equipment
21. Electrical and optical equipment
22. Transport equipment
23. Furniture
24. Recycling
25. Other – describe: _____

Agriculture

30. Crop cultivation
31. Animal husbandry
35. Other – describe: _____
40. Construction
41. Transportation
42. Communication and IT
43. Financial services
44. Legal services
45. Public services
46. Personal services
47. Retail, food
48. Retail, non-food
49. Wholesale (including import-export)
50. Education
51. Health care
55. Other (please specify) _____

A19. PLEASE BRIEFLY DESCRIBE THE PRIMARY TYPE OF CURRENT ACTIVITIES OF THE FIRM/ORGANIZATION.

_____

A20. IF THE FIRM/ORGANIZATION EVER CHANGED THE PRIMARY TYPE OF ITS ACTIVITIES, PLEASE INDICATE PREVIOUS TYPE AND YEAR CHANGED. IF IT NEVER CHANGED, WRITE: "NEVER CHANGED."

Indicate primary activity type in column A20a and year of change in A20b.

A20A. Previous primary activity type	*A20B. Year of change*
_____ _____	☐☐☐☐

98 No change *99 Don't know / No response*

A21. WHAT SHARE OF PRODUCTS OR SERVICES YOUR FIRM/ORGANIZATION PROVIDES TYPICALLY GOES TO MARKETS OUTSIDE KYRGYZSTAN?

Choose one.

1 All or almost all
2 About three quarters
3 About half

4 About one quarter
5 Less than one quarter
8 Don't know / Unsure

A22. DO ANY OF THE FIRM'S/ORGANIZATION'S OWNERS OR MANAGERS HAVE A HIGHER EDUCATION DEGREE?

Choose one.

1	***Yes***
2	***No***
9	**No response / Refusal**

A23. DO ANY OF THE FIRM'S/ORGANIZATION'S EMPLOYEES HAVE A HIGHER EDUCATION DEGREE?

Choose one.

1	***Yes***
2	***No***
9	**No response / Refusal**

A24. DO ANY OF THE FIRM'S/ORGANIZATION'S MANAGERS OR OWNERS HAVE ANY PAST EXPERIENCE IN ANY OF THE FOLLOWING?

One response per row.

		Yes	***No***	**Don't know/No response**
A	***Manager in state firm***	***1***	***2***	**8**
B	***Manager in a private firm***	***1***	***2***	**8**
C	***Government employee***	***1***	***2***	**8**

The following two questions refer to the past. We realize that some facts and numbers of the past may be hard to recall exactly. However, even approximate responses would be very helpful.

A25. THE FIRM'S/ORGANIZATION'S EMPLOYMENT HISTORY: PLEASE FILL OUT THE TABLE, INDICATING THE APPROXIMATE NUMBER OF DE FACTO REGULAR CONTRACT EMPLOYEES (INCLUDING UNREGISTERED EMPLOYEES, THE OWNER(S), AND FAMILY MEMBERS WORKING IN THE FIRM/ORGANIZATION). BEGIN IN 1990 OR THE YEAR THE FIRM/ORGANIZATION WAS ESTABLISHED, WHICHEVER IS LATER.

If there were no employees in a particular category, write "0." If you cannot remember even approximately how many employees there were in a category, put a question mark in the corresponding cell.

Year	Number of employees at the beginning of each year					
	Full time			Part Time		
	Total	Men	Women	**Total**	Men	Women
1990						
1991						
1992						

1993						
1994						
1995						
1996						
1997						
1998						
1999						
2000						
2001						
2002						
2003						
2004						
2005						
2006						
2007						

A26. PLEASE FILL OUT THE FOLLOWING TABLE, INDICATING WHETHER ANY OF THE FOLLOWING CATEGORIES PRESENTED AN OBSTACLE TO THE GROWTH OF THE FIRM/ORGANIZATION DURING EACH YEAR SINCE THE FIRM/ORGANIZATION WAS ESTABLISHED, OR SINCE 1990, WHICHEVER IS LATEST. RANK EACH OF THE 10 ITEMS USING A SCALE FROM 0 TO 2, AS DEFINED FOR EACH ITEM.

If unsure, mark "8."

1. Managerial skills –Finding managers and technical personnel with needed skills for your industry or sector. (0= well qualified individuals easy to find and hire; 2= capable managers and technical people not available or hard to find.)

2. Labor force availability- Hiring workers with appropriate skills. (0= qualified workers readily available; 2= many work places in the firm (business) (business) cannot be filled due to lack of qualified candidates.)

3. Availability of business premises. (0= Easy to obtain business premises; 2= very difficult to find suitable business premises.)

4. Availability of business services, parts, components and raw materials. (0= Easy to obtain these inputs; 2= very difficult to find suitable inputs.)

5. Taxes – Level of taxation is an obstacle to reinvesting profits or hiring additional workers. (0= not at all or a minor obstacle; 2= major obstacle to firm (business) (business) growth.)

6. Internal finance – Funds generated by the firm (business) itself are sufficient to finance desired expansion. (0= all or almost all desired investments could be financed by profits; 2= lack of own funds for investment was a major barrier to expansion.)

7. External finance – Ability to borrow from banks or other lenders at reasonable rates or for a sufficiently long time to finance desired expansion. (0= easy to get outside funds for firm (business); 2= very difficult or impossible to get loans and other outside funding at reasonable terms making needed investments difficult or impossible.)

8. Business environment – Firm (business) registration, obtaining licenses or permits for the firm (business). (0= not a problem to get licenses, register firm (business), etc; 2= registering firm (business) or getting licenses very costly and/or time consuming.)

9. Legal disputes – Did legal disputes with customers or suppliers over payments for goods and services or over contracts present an obstacle to profit or growth? (0= payments are generally on time, few conflicts over contracts or payment; 2= lack legal environment for contract enforcement and late payments cost us much time and money.)

10. "Gray" market –Were unregistered (underground) firms (businesses) or individuals a source of competition? (0= very few unregistered or underground competitors in our sector; 2= competition from unregistered firm (business)s or individuals is a big burden on our firm (business).)

YEAR	1. Managerial Skills	2. Labor Force Availa-bility	3. Avail-ability Business Premises	4. Avail-ability of Business Services, Parts, Compo-nents and Raw Materials	5. Taxes	6. Internal Finance	7. External Finance	8. Business Environ-ment	9. Disputes	10. Gray Market
1990										
1991										
1992										
1993										
1994										
1995										
1996										
1997										
1998										
1999										
2000										
2001										
2002										
2003										
2004										
2005										
2006										
2007										

A27. WHAT SHARE OF THE FIRM'S/ORGANIZATION'S FULL-TIME EMPLOYEES ARE MEMBERS OF A LABOR UNION?

Choose one.

1 All or almost all

2 About three quarters
3 About half
4 About one quarter
5 Less than one quarter
8 Don't know / Unsure

The following questions are about any type of assistance that your firm (business) may have received. Assistance may include financial assistance, such as loans with interest, interest-free loans, grants, as well as technical, training or consulting assistance.

The following questions are about any type of assistance the firm/organization may have received. Assistance may include financial assistance, such as loans with interest, interest-free loans, grants, as well as technical assistance, training, or consulting.

A28. HAS THE FIRM/ORGANIZATION EVER RECEIVED ANY LOAN WITH INTEREST FROM AN INTERNATIONAL AGENCY, A FOREIGN GOVERNMENT, OR A FOREIGN PRIVATE AGENCY, THE KYRGYZ GOVERNMENT, OR A KYRGYZ PRIVATE AGENCY?

Choose one.

1 Yes, at least once.
2 Never
8 Don't know / Unsure

SKIP TO QUESTION A30.

A29. FOR EACH LOAN RECEIVED, PLEASE INDICATE THE TYPE OF INSTITUTION THAT ISSUED IT, THE APPROXIMATE AMOUNT, THE YEAR IT WAS RECEIVED, AND THE YEAR IT WAS PAID IN FULL (IF IT WAS PAID IN FULL). ALSO RECORD, AS FAR AS YOU KNOW, WHETHER THE FUNDS GIVEN FOR THESE LOANS WERE PROVIDED BY THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID). BEGIN WITH THE MOST RECENT LOAN.

Complete in order, filling in information in the appropriate fields.

	A. Type of agency/institution that provided the loan ***1. Foreign government or international agency*** ***2. Foreign private institution*** ***3. Kyrgyz government*** ***4. Kyrgyz private institution*** ***8. Unsure***	***B. Approximate amount of the loan (in Kyrgyz som)***	***C. Year the loan was received***	***D. Year the loan was paid in full*** (Write in "7777" if the loan was not paid in full)	***E. Did the loan entirely or partially come from USAID?*** ***1. Yes*** ***2. No*** ***8. Don't know***
1. Most recent					
2.					
3.					
4.					

A30. DID THE FIRM/ORGANIZATION EVER RECEIVE AN INTEREST-FREE LOAN FROM AN INTERNATIONAL INSTITUTION, A FOREIGN GOVERNMENT, A FOREIGN PRIVATE INSTITUTION, THE KYRGYZ GOVERNMENT, OR A KYRGYZ PRIVATE ORGANIZATION?

Choose one.

1	Yes, at least once.	
2	Never	***SKIP TO QUESTION A32.***
8	*Don't know / Unsure*	

A31. FOR EACH LOAN RECEIVED, PLEASE INDICATE THE TYPE OF INSTITUTION THAT ISSUED IT, THE APPROXIMATE AMOUNT, THE YEAR IT WAS RECEIVED, AND THE YEAR IT WAS PAID IN FULL (IF IT WAS PAID IN FULL). ALSO RECORD, AS FAR AS YOU KNOW, WHETHER THE FUNDS GIVEN FOR THESE LOANS WERE PROVIDED BY THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID). BEGIN WITH THE MOST RECENT LOAN.

Complete in order, filling in information in the appropriate fields.

	A. Type of agency/institution that provided the loan ***1. Foreign government or international agency*** ***2. Foreign private institution*** ***3. Kyrgyz government*** ***4. Kyrgyz private institution*** ***8. Unsure***	***B. Approximate amount of the loan (in Kyrgyz som)***	***C. Year the loan was received***	***D. Year the loan was paid in full*** (Write in "7777" if the loan was not paid in full)	***E. Did the loan entirely or partially come from USAID?*** ***1. Yes*** ***2. No*** ***8. Don't know***
1. Most recent					
2.					
3.					
4.					

A32. DID THE FIRM/ORGANIZATION EVER RECEIVE A GRANT (MONEY AS A GIFT) FROM AN INTERNATIONAL INSTITUTION, A FOREIGN GOVERNMENT, A FOREIGN PRIVATE INSTITUTION, THE KYRGYZ GOVERNMENT, OR A KYRGYZ PRIVATE ORGANIZATION?

Choose one.

1	Yes, at least once.	
2	Never	***SKIP TO QUESTION A34.***
8	*Don't know / Unsure*	

A33. FOR EACH GRANT RECEIVED, PLEASE INDICATE THE TYPE OF INSTITUTION THAT ISSUED IT, THE APPROXIMATE AMOUNT, THE YEAR IT WAS RECEIVED. ALSO RECORD, AS FAR AS YOU KNOW, WHETHER THE FUNDS FOR THE GRANT WERE PROVIDED BY THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID). BEGIN WITH THE MOST RECENT GRANT.

Complete in order, filling in information in the appropriate fields.

	A. Type of agency/institution that provided the grant ***1. Foreign government or international agency*** ***2. Foreign private institution*** ***3. Kyrgyz government*** ***4. Kyrgyz private institution***	***B. Approximate amount of the grant (in Kyrgyz som)***	***C. Year the grant was received***	D. Leave this column blank	***E. Did the grant entirely or partially come from USAID?*** ***1. Yes*** ***2. No***

	8. Unsure				***8. Don't know***
1. Most recent					
2.					
3.					
4.					

A34. DID THE FIRM/ORGANIZATION EVER RECEIVE NON-FINANCIAL ASSISTANCE, SUCH AS TRAINING OR CONSULTANCIES, FROM AN INTERNATIONAL INSTITUTION, A FOREIGN GOVERNMENT, A FOREIGN PRIVATE INSTITUTION, THE KYRGYZ GOVERNMENT, OR A KYRGYZ PRIVATE ORGANIZATION?

Choose one.

1	Yes, at least once.	
2	Never	***SKIP TO QUESTION A36.***
8	*Don't know / Unsure*	

A35. FOR EACH INSTANCE OF ASSISTANCE, PLEASE INDICATE THE TYPE OF AGENCY THAT PROVIDED IT, THE TYPE OF ASSISTANCE, THE YEARS THE ASSISTANCE STARTED AND ENDED. PLEASE NOTE, AS FAR AS YOU KNOW, WHETHER THE ASSISTANCE CAME FROM THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID). BEGIN WITH THE MOST RECENT INSTANCE OF ASSISTANCE.

Complete in order, filling in information in the appropriate fields.

	A. Type of agency/institution providing the assistance ***1. Foreign government or international agency*** ***2. Foreign private institution*** ***3. Kyrgyz government*** ***4. Kyrgyz private institution*** ***8. Unsure***	***B. Type of assistance***	***C. Year assistance was provided***	***D. Number of training sessions or consultancies provided***	***E. Was the assistance funded fully or partially by USAID?*** ***1. Yes, fully*** ***2. Yes, partially*** ***3. No*** ***8. Unsure***
1. Most recent					
2.					
3.					
4.					

A36. DID YOUR FIRM/ORGANIZATION EVER RAISE FUNDS THROUGH LOANS FROM THE OWNERS OF THE FIRM/ORGANIZATION?

Choose one.

1	Yes, at least once.	
2	Never	***SKIP TO BLOCK B***
8	*Don't know / Unsure*	

A37. FUNDRAISING. INCLUDE ALL TYPES AND INSTANCES.

Complete in order, filling in information in the appropriate fields.

	Type	***Quantity/Amount***	***Start Date***	***End date (or pay-off date)***
1				
2				
3				
4				

Part B.

Now, please answer a few more questions dealing with your views and expectations.

IF THE FIRM (BUSINESS) HAS NEVER RECEIVED ANY TYPE OF USAID ASSISTANCE, SKIP TO **B13X.**

On a scale from 1 to 5, 1 being least useful and 5 being most useful, how would your rate the role of the USAID **loans or** assistance that your business received for the following. If you are unsure, please circle "DK."

B1-B6. ON A SCALE FROM 1 TO 5, 1 BEING LEAST USEFUL AND 5 BEING MOST USEFUL, HOW WOULD YOUR RATE THE ROLE OF THE USAID **LOANS OR** ASSISTANCE THAT YOUR BUSINESS RECEIVED FOR THE FOLLOWING:

One choice per row

		Least useful				***Most useful***	***Don't know***
		1	*2*	*3*	*4*	*5*	*8*
B1.	***Firm's/org's competitiveness***	***1***	***2***	***3***	***4***	***5***	***8***
B2.	***Firm's/org's profit growth (if for-profit)***	***1***	***2***	***3***	***4***	***5***	***8***
B3.	***Jobs created in your firm/org.***	***1***	***2***	***3***	***4***	***5***	***8***
B4.	***Customer satisfaction with firm's/org's products, services***	***1***	***2***	***3***	***4***	***5***	***8***
B5.	***Overall success of firm/org.***	***1***	***2***	***3***	***4***	***5***	***8***

B6. WAS THERE ANYTHING USAID LOANS OR ASSISTANCE ALLOWED THE FIRM/ORGANIZATION TO DO THAT IT COULD NOT HAVE DONE OTHERWISE?

Write respondent's full response.

_____

_____

B7. IN WHAT WAYS COULD THE USAID PROGRAM BEEN CHANGED TO MAKE IT MORE EFFECTIVE FOR THE FIRM /

ORGANIZATION? WHAT OTHER FORMS OF ASSISTANCE COULD USAID HAVE OFFERED THAT WOULD HELP THE FIRM / ORGANIZATION RIGHT NOW?

Write respondent's full response.

_____

_____

B8X. IF THE FIRM (BUSINESS) NEVER RECEIVED ANY ASSISTANCE FROM ANY NON-USAID SOURCE, SKIP TO QUESTION **B13X**.

B8-B12. COMPARED TO OTHER FORMS OF LOANS OR ASSISTANCE THAT FIRM/ORGANIZATION MAY HAVE RECEIVED FROM STATE, PRIVATE, OR INTERNATIONAL SOURCES, HAS THE USAID ASSISTANCE BEEN MORE IMPORTANT, LESS IMPORTANT, OR ABOUT EQUALLY IMPORTANT FOR:

One choice per row

		Least important				***Most important***	***Don't know***
		1	*2*	*3*	*4*	*5*	*8*
B8.	***Firm's/org's competitiveness***	***1***	***2***	***3***	***4***	***5***	***8***
B9.	***Firm's/org's profit growth (if for-profit)***	***1***	***2***	***3***	***4***	***5***	***8***
B10.	***Jobs created in your firm/org.***	***1***	***2***	***3***	***4***	***5***	***8***
B11	***Customer satisfaction with firm's/org's products, services***	***1***	***2***	***3***	***4***	***5***	***8***
B12.	***Overall success of firm/org.***	***1***	***2***	***3***	***4***	***5***	***8***

B13X. *THE LAST FEW OF QUESTIONS ARE ABOUT THE ECONOMIC ENVIRONMENT OF KYRGYZSTAN*. I WILL NAME SEVERAL ASPECTS OF THIS ENVIRONMENT; PLEASE TELL ME IF, IN YOUR OPINION, IN THE PAST THREE YEARS CONDITIONS IN EACH OF THAT ASPECTS HAVE GREATLY IMPROVED, SOMEWHAT IMPROVED, SOMEWHAT WORSENED, GREATLY WORSENED, OR THE CONDITIONS HAVE NOT CHANGED MUCH

One choice per row

		Greatly improved	***Somewhat improved***	***Have not changed***	***Somewhat worsened***	***Greatly worsened***	***Unsure***
B13	***Legal environment***	***1***	***2***	***3***	***4***	***5***	***8***
B14	***Financial environment***	***1***	***2***	***3***	***4***	***5***	***8***
B15.	***Regulatory environment***	***1***	***2***	***3***	***4***	***5***	***8***
B16.	***Service environment***[77]	***1***	***2***	***3***	***4***	***5***	***8***

B17 IN YOUR OPINION, ONE YEAR FROM NOW, WILL BUSINESS CONDITIONS IN KYRGYZSTAN GREATLY IMPROVE, SOMEWHAT IMPROVE, SOMEWHAT WORSEN, GREATLY WORSEN, OR WILL THESE CONDITIONS REMAIN MORE OR LESS THE SAME?

Choose one

1 Will greatly improve

[77] Business services such as communications, transportation, legal services, consulting, export-import, information services.

2 Will somewhat improve
3 Will not change
4 Will somewhat worsen
5 Will greatly worsen
8 Unsure

Thank you very much for participating in the survey! If you have questions about the survey or about the subsequent uses of its results, please contact AAA at tel. XXX or e-mail YYY.

REVIEW THE QUESTIONNAIRE FOR COMPLETENESS; ENSURE THAT THE FIRM (BUSINESS) ID NUMBER IS ENTERED ON THE TOP OF EACH PAGE.

APPENDIX F: USAID, MICROFINANCE, AND GROWTH BARRIERS: CASE STUDIES

The importance that USAID-supported microfinance institutions (MFIs) have come to play in Eastern Europe and Eurasia corresponds to two of the more conspicuous findings in the project's field surveys. First, the growth of MFIs in the region is responding to the demand for credit so well documented in the surveys. Second, because microfinancing addresses micro- and small enterprises (MSEs)—typically small family units that are underrepresented in the survey of aid recipients—this helps to account for the inconclusive nature of some of the Kyrgyz survey results. Most of the recipients of micro-lending in Kyrgyzstan fit into this elusive, underrepresented survey category of small family enterprises that are only slowly evolving into small and medium-sized enterprises with increased labor demands. For these reasons, we believe it is important to pay specific attention to the MFIs in the region as part of a qualitative nuancing of the foregoing quantitative analysis.

Microfinancing provides small-scale financial services—primarily credit and savings—to poor and underserved populations.[78] The award of the 2006 Nobel Peace Prize to Muhammad Yunus and Grameen Bank, which first made a $27 loan to a group of basket weavers in Bangladesh in 1976, has brought increasing attention to the role of microfinance institutions in growing micro- and small enterprises (MSEs) and encouraging more broadly the development of entrepreneurship.[79]

The countries of Eastern Europe and Eurasia, despite the relatively recent development of private economic activity in much of the region, now fit squarely into the wider global development of microfinance. According to estimates provided by the Microcredit Summit Campaign Report of 2005, more than ninety-one million previously "unbankable" borrowers worldwide had been provided with microfinance loans as of the end of 2004.[80] While microfinance institutions (MFIs) were not fully incorporated into the financial system in key Eurasian regions such as the Russian Federation until after the financial crisis of 1998, nevertheless the growth of MFIs throughout the latter half of the 1990s and early years of the twenty-first century has been remarkable. This growth of MFIs and its impact upon employment is all the more significant in regions of the former Soviet Union where until twenty years ago private economic activity was a criminal offense. Representative of the growth is the Russian KMB Bank, which increased its number of borrowers from approximately nine thousand in 2001 to forty-six thousand in 2005, with more than 40 percent of its borrowers in 2005 never having previously borrowed from a bank or credit institution.[81]

Comparable growth was reported to the project team in site visits to MFIs in Macedonia, Bulgaria, and Kyrgyzstan. Moznosti Savings House, the first micro-credit institution in Macedonia started in 1996 by Opportunity International (OI) with a grant from USAID, has issued 17,809 loans totaling approximately 54 million Euros, with 5,750 active clients as of mid-year 2007. Ustoi Microfinance, launched by Catholic Relief Services in Bulgaria in 1998, used a five-year USAID project begun in 1999 to expand their microfinance lending. They now have 20 offices in Bulgaria and have made 40,800 loans to 2,500 clients; for a total loan value of $31 million. Their program includes a small microfinance program lending to the Roma community that reports 0 percent delinquency. In Kyrgyzstan, Bai Tushum & Partners Micro Credit Company (formerly Bai Tushum Financial Foundation), formed in 2000 from three credit programs plagued with problems of delinquency, has increased the number of its borrowers from

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[78] For a more complete definition of microfinance that incorporates this core component, see Robinson 2003, p. 9.
[79] See Helms (2006) and Buyske (2007). Buyske contains a comprehensive bibliographical review of the relevant literature on MFIs, pp. 203–209. See, in particular, her important overview, "Microfinance: A Global Overview," pp. 11–48.
[80] Daley-Harris (2005).
[81] Buyske (2007), p. 192–195.

roughly 2,000 in 2002 to more than 10,000 in 2006, approximately half of whom are currently active clients.

There are three features in this growth of MFIs that are particularly worth noting. The first is the obvious profitability of these emerging credit institutions in Eastern Europe and Eurasia. All the microfinance and SME lending projects visited by the project and launched with USAID assistance in Bulgaria, Macedonia, and Kyrgyzstan are now profitable. The success of these credit institutions in lending to poor and underserviced borrowers has been built upon lending practices that feature direct communication with clients at their place of business and use of cash flow forecasts for collateral. As Buyske has noted, while more traditional commercial and state banking institutions were frozen into inaction by the lack of formal financial information, the new MFIs "rolled up their sleeves and worked with the financial information that was available"—tax statements, borrowers' informal record keeping, average daily sales compared to inventory levels, etc.[82] This financial analysis has also been coupled with loan structuring that meets the borrowers' needs and repayment capacity, including frequent, regular payments. The result has been delinquency rates as measured by the percentage of the loan portfolio at risk (delinquent for more than one month) that are commonly less than 5 percent across most of the MFIs of the region. Bai Tushum, for example, had a delinquency rate of .93 percent in 2005, and 1.44 percent in 2006. Moznosti in Macedonia had a delinquency rate of 3.5 percent as of March 2007. What this pattern of low delinquency rates reveals is the success of training efforts directed toward loan officers in an East European and Eurasian banking environment that has changed dramatically in the past twenty years. One of the positive success stories and lessons learned in this effort has been the importance of early, effective technical training for the MFI industry.

An additional reason for the profitability of these MFIs has been their recognition that it is possible to set interest rates that, while often quite reasonable within the broader lending environment of Eastern Europe and Eurasia, are high enough to cover the costs of such individualized financial loan analysis. MFI loan officers/field practitioners have come to realize that microentrepreneurs are sensitive not just to interest rates but to overall convenience and ease of access to credit.

Closely related to this profitability is a second notable feature of the microfinance industry in Eastern Europe and Eurasia—its sustainability. This sustainability has taken a variety of forms, including most commonly the access to international investment. The profitability of MFIs has clearly lured international investors into the market. Khan Bank of Mongolia, formerly a state-owned agricultural bank with more than 270 branch offices, was recapitalized by the World Bank and restructured with the assistance of USAID. Its CEO J. Peter Morrow, a Phoenix affiliate of the ASU Melikian Center, oversaw the sale of Khan Bank to a Japanese holding company in 2005. Khan Bank in June 2006 reported a loan portfolio of $161 million. Similarly, majority interest in KMB Bank, the Russian small business credit bank founded in 1999 by EBRD for lending to micro- and small entrepreneurs, was acquired by Banca Intesa, the second largest bank of Italy, at the end of 2005. Moznosti Savings House, on the other hand, received a license to take deposits in 2000, and is now 100 percent owned by an NGO. The Bulgarian American Credit Bank (BACB), formerly the Bulgarian American Enterprise Fund (BAEF), continued with BAEF as its major shareholder (98 percent) until 2006, falling to 59 percent after an IPO sale of more than 30 percent of its shares, 85 percent of which were purchased by international investors. The initial price at the IPO was 29 leva. Shares now trade at 90 leva.

In order to maximize profitability and ensure sustainability, many of the MFIs have sought to broaden their portfolio and become registered as commercial banks. There is no inherent reason why commercial banks cannot function as multi-purpose institutions servicing MSEs and SMEs alongside larger commercial interests. One of the lessons of the MFI industry in Eastern Europe and Eurasia has been that loan size is often larger in Russia and other transitioning countries than in countries where microfinance

[82] Buyske (2007), p. 22.

emerged.[83] Microfinance is part of a continuum of financial services to entrepreneurs, and that continuum does not have any natural or permanent dividing lines. To maximize the role of microfinance as a tool in economic growth, it is important to understand the need for flexibility in loan size and potential internal transformation of MFIs into multi-purpose commercial banking institutions. That growth is reflected in the increasing size of loans initiated by MFIs throughout Eastern Europe and Eurasia. For example, the average loan size for KMB in Russia had increased to $9,096 in 2005, including 510 loans that exceeded $100,000. Moznosti in Macedonia has increased its average loan size over the past five years from 2000 to 3000 Euros.

Finally and most importantly for this study, alongside the profitability and sustainability of the MFI industry has come genuine job creation. Not only has this employment been reflected in the credit industry itself, which has grown exponentially over the past ten years, but most MFIs offer very optimistic assessments of the impact of their micro-lending upon employment. Bai Tushum estimates that for every $250 loaned, a new job is created.[84] FINCA in Kyrgyzstan claimed during the project site visit that they generated 0.7 jobs for every $1,000 lent. Crimson Development Foundation, an NGO commercial lending operation in Macedonia funded with USAID-support, calculates that their loans have produced 741 jobs, of which 50 percent were women and 20 percent were minorities. Their commercial loans for SMEs typically involved purchase of machinery. USAID Bulgaria program officers noted that 5 percent of MSE recipients of micro-lending had grown to SME size since the launch of USAID support for MFIs in the 1990s. While that percentage is small, the overall period of evaluation is also relatively short. Thus, the fact that a significant, if small, number of micro-size, family enterprises have moved beyond micro-lending to small and medium-sized enterprises reflects the kind of employment growth that has accompanied the development of MFIs in Eastern Europe and Eurasia.

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[83] Buyske (2007), p. 199–200.

[84] "ACDI/VOCA Supporting the Evolution and Sustainability of the Bai Tushum Financial Foundation, October 2000-August 2005: Final Report," November 1, 2005 (see http://pdf.usaid.gov/pdf_docs/PDACG083.pdf), p. 34.

Assessing the Impact of U.S. Government Assistance on Job Creation

SUMMARY OF ACTIVITIES AND LESSONS LEARNED

December 2007

Kathleen Evans-Romaine
Stephen Batalden

THE MELIKIAN CENTER:
Russian, Eurasian & East European Studies
ARIZONA STATE UNIVERSITY

Purpose

The purpose of this project was to evaluate the impact that economic growth programs of the United States Government (USG) had on job creation and employment environments since 1995 in countries receiving assistance through the SEED and FSA programs. The aim of the study was to determine, using fieldwork in three focus countries and experience reflected in the academic literature, what kinds of USG programs most effectively create stable and long-lasting employment growth in the host countries.

The project as envisioned during a meeting between USAID and ASU in October 2006 was to consist of four phases:

1. Determination of Case Study Countries and Framing of Issues (2006 Oct – Nov)
2. Evaluation of USG Assistance (2006 Oct – 2007 Mar)
3. Conduct of Field Study and Analysis of Results (2007 Mar – Jun)
4. Promotion and Dissemination of Findings (2007 Jun – Dec)

The ASU proposal for this project was based on the award date of July 2006 cited in the original RFP. The fact that award notification was not made until October 2006 resulted in the contraction of the project into a single calendar year and limited the role that one of the economists on the project, Jean Tesche, was able to play. The field study was also delayed by difficulties in identifying beneficiaries of USAID assistance. These delays led to the following changes in project scope and schedule:

1. Choosing Focus Countries and Framing Issues (2006 Nov – Dec)
2. Desk Study (2007 Jan – Mar)
3. Field Study (2007 Mar – Aug)
4. Analysis (2007 Sep – Nov)
5. Promotion and Dissemination of Findings (2007 Dec – 2008 Dec)[1]

Actual Project Activities. We describe below each phase of the project as it actually developed.

Phase 1: Choosing Focus Countries and Framing Issues (2006 Nov – Dec)

1. In accordance with original plan, ASU developed criteria for selecting countries to be included in this study. The countries recommended were: Bosnia, Kosovo, Macedonia, Armenia, and Russia. After consultation with USAID and consideration of availability of local support, Macedonia, Bulgaria, and Kyrgyzstan were selected.

Phase 2: Desk Study (2007 Jan – Mar)

[1]ASU plans to continue actively disseminating the findings of this report after the completion of the grant period in December 2007.

Document Review. The ASU desk study centered around a two-pronged literature review. While the Economic Analysis Team reviewed academic studies (see bibliography to desk study), the Research Team gathered and reviewed USAID reports, strategic plans, reviews, budget reports and R4s, and culled data from contractors' websites, from economic data repositories, business associations, etc. From these data the teams developed the economic overview and theoretical considerations outlined in the historical overview and literature review sections of the ASU report. The Research Team's work was also critical to the identification of contractors and implementers to be contacted in connection with the Field Study. At over 2,500, the list of documents consulted is too long for inclusion here. Please see Appendix A for a summary of documents and people consulted.

It was originally anticipated that the desk study would form a 'meta-evaluation' which would extract and organize job-creation data contained in program reports, strategy papers, etc. However, the analysis team quickly discovered that such data were almost entirely absent from project reports. What data the team was able to find differed from program to program and in some cases was provided without the level of methodological description that would have allowed independent verification of claims. For this reason the team reallocated resources to assist in the literature review.

Interviews. In addition to the meeting with USAID and HED officers in November 2006 in Washington, DC, the project management and research teams conducted several telephone interviews with USAID officers in Bulgaria, Macedonia, and Kyrgyzstan in anticipation of the field study phase of the project. Particularly useful was an early interview with Thomas A. Dine, former USAID assistant administrator for the Europe and Eurasia Bureau.

Preliminary Report. Phase 2 culminated with the drafting of a preliminary desk study consisting of three sections. Section One provided an overview of labor markets in East Europe and Central Asia from 1991 to 2005. Section Two provided a brief history of USG assistance efforts in the region. Section Three presented a methodology for approximating the impact of USG interventions in the economies of the countries of interest and illustrated its application. John Earle of the Upjohn Institute reviewed the report and provided valuable insights.

Phase 3: Field Study (2007 Apr – Sep)

Design of Field Study. The original proposal envisioned a process in which researchers from ASU and its partners, under the direction of a team of experienced evaluators, would compare existing evaluations of USAID projects and proceed to hone in on the impacts of selected projects on job creation. As part of their evaluation, ASU researchers and their in-country partners would conduct interviews consisting in equal measure of a statistical survey of the employment histories of selected beneficiaries of the targeted projects and of free-form interviews intended to expand upon points of interest identified during the literature review phase of the evaluation.

Several factors forced ASU to rethink this approach. On a purely practical level, the compressed timeframe engendered by the delay in the start of the project meant that there would be less time to research existing evaluations and less chance to go into depth over multiple interviews with multiple representatives from each targeted project.

More problematic than the delay in start-up, however, was the selection of focus countries in which ASU had few or no working relationships. The original ASU proposal recommended focusing on Armenia, Bosnia and Herzegovina, Kosovo, Macedonia, or Russia; all countries where ASU has well-developed institutional partnerships. In making its proposal, ASU had

expected to leverage these partnerships to complete this ambitious project within the constraints of a low budget and very tight deadlines. Since only one of the recommended countries was chosen as a focus country, ASU was forced to develop an alternative strategy for obtaining local expertise. Without local networks, ASU turned to private research firms and shifted from in-depth examinations of individual projects to a broad survey of USAID beneficiaries in general. There were three other reasons for these changes.

First, it became clear in early correspondence with USAID country missions that there had been virtually no project-level or contractor-level efforts to evaluate the impact of USAID assistance on job creation. Only a handful of projects in each country tracked job creation, and since they did so with no mandate and no fixed format, they were inconsistent in their definitions and methods. This made it impossible for us to piggy-back upon prior evaluations as we had expected to do.

Second, the shift from a meta-evaluation toward a broad quantitative survey of recipients of USAID assistance was a response to USAID's interest in developing a standard methodology for assessing the impact of USG assistance on job creation across projects and countries. As our thinking on best evaluation practices evolved, it became increasingly less obvious that re-evaluating projects was an effective and generalizable way to evaluate job creation. Interviews with project staff could tell us a great deal about a project and its goals, but unless the project had tracked job creation (which very few did), there was relatively little that interviews would add to existing reports. Further militating against an interview-centered approach was the fact that, since our charge was to investigate projects back to the earliest efforts in the region, the majority of the projects we were interested in had already closed and their personnel moved on. Our experience in collecting beneficiary information from closed projects suggested that locating former project staff to interview would be an exceedingly time-consuming and expensive process; a process whose benefit we were by this point beginning to question.

Finally, even where ASU had well-established ties, as in Macedonia with the University of Ss. Kiril and Metodij in Skopje, we discovered that private companies were better prepared than our university partners to conduct the kind of country-wide survey research we now saw as key to the success of the project—and at considerably lower cost. While our university partners were ideally equipped to perform the qualitative evaluations and analyses we had originally envisioned, they were less prepared to assemble, train, and oversee the work of a sufficiently large staff of professional polltakers in a sufficiently large number of locations across the country on short notice. By shifting the format from one calling for a small number of highly trained interviewers/evaluators to a format relying on standardized data that could be gathered by relatively untrained workers using standardized questionnaires, we advantaged commercial market research companies and disadvantaged university analytical centers.

For these reasons, we decided that we could provide a better estimate of the effect of USG assistance on job creation if we did not split our attention between re-evaluations of USAID projects and surveys of the labor market, but instead concentrated our resources on: (a) questions of greatest theoretical concern (the definition of "job creation" and a review of the literature on labor markets in transitioning economies); and (b) creating valid quantitative estimates of job creation and USG support's role in it. This opinion received validation from outside reviewers of our preliminary report, who suggested precisely such an approach as the best way to arrive at defensible quantitative statements regarding job creation.

With this in mind, we structured our report around a medium-scale survey, to be carried out nation-wide in all three of the focus countries, to determine whether USG assistance had or had not led to job creation.

Survey Rationale. The findings of Phase 2 suggested that it should be possible to make reasonable estimates of direct job creation by gathering longitudinal employment data on a matched set of USAID assistance recipients and non-recipients. By combining these data with macroeconomic data and the results of an attitudinal survey we expected to be able to construct models allowing quantitative estimates of indirect effects of USG assistance.

Sample Construction. We estimated that in order to guarantee the requisite power of analysis, we would need a sample of 100 beneficiaries, distributed across USAID assistance types and business sectors, covering the whole period during which USAID was active in each country, with a matched sample of 100 non-beneficiaries.

We expected to extract beneficiary information from USAID reports or receive it from other USAID sources. After an exhaustive search of the Bulgaria, Macedonia, Kyrgyzstan, Kazakhstan, and Central Asia sections of USAID's DEC clearinghouse, searches of other online data clearing houses and contractors' websites, and queries to USAID DC and to the USAID missions in the host countries failed to yield enough data points, ASU began contacting USAID contractors in the US and in the host countries directly. Identifying the relevant officers and data managers (or archivists) in each organization and negotiating the release of client information proved to be time consuming. It was not until late June, almost eight weeks behind schedule, that ASU had enough records in each of the categories by which it was structuring its sample to launch its survey in Macedonia and Bulgaria[2]. It took an additional two weeks to gather enough data to launch the Kyrgyz survey.

The data universes we were able to construct in this manner are not ideal. Under pressure to launch the surveys in time to beat the summer vacation season in the focus countries we began to survey as soon as we had a minimally acceptable sample.

The following table lists the projects included in each country (projects contributing under 3 records excluded):

Acronym	Project name
	Ustoi Microfinance
BACB	Bulgarian-American Credit Bank
BAEF	Bulgarian-American Enterprise Fund
EGIP	Economic Growth and Investment Program
EMED	Entrepreneurial Management and Executive Development Program
FLAG	Firm-Level Assistance Group
PSP	Private Sector Program
PTP	Participant Training Program
SEAF	Small Enterprises Assistance Fund
START	Strategic Technical Assistance for Results with Training Program

Acronym	Project name
CAAEF	Central Asian-American Enterprise Find
FINCA KG	Foundation for International Community Assistance
FPI	Financial Protection Initiative

[2] Invaluable in this regard were Development InfoSystems (Devis) of Alexandria, VA, who provided ASU TraiNet data dumps; and World Learning of Brattleboro, VT.

GTD	Global Training for Development
PTP	Participant Training Program

Acronym	Project name
EMED	Entrepreneurial Management and Executive Development Program
MEF	Macedonian Equity Fund
FORECAST	FORECAST
MER	Macedonia Enterprise Restructuring Project
MPA	Macedonian Privatization Assistance
MAMA / LOL	MAMA Project / Seal of Quality / Agribusiness Assistance Project
MCA	Macedonia Competitiveness Activity
Moznosti Makedonija	Moznosti Makedonija
PTP	Participant Training Program
RFI	Rural Financial Institutions Project
SEAF	Small Enterprises Assistance Fund
SME	Macedonian SME Fund
START	Strategic Technical Assistance for Results with Training Program

Survey Description. Although in the theoretical section of our report we write that the best cross-project variable for measuring job creation in *ongoing* projects is the wage bills of aid recipients, our survey asks firms to report instead the number of employees. We deemed it unlikely that a sufficiently large number of respondents would be able to recall the history of their wage bill in enough detail to provide usable data, and feared that requiring wage-bill information would introduce a bias toward larger and more successful firms.

The survey consisted of a questionnaire administered in face-to-face interviews of 20–60 minutes in Bulgarian, Macedonian, or Russian. Questionnaires were administered to a test group of 100 recipients of USG assistance and a control group of 100 firms not known to have received assistance, matched for business section and location.

Survey Administration. Having decided to outsource field operations, we solicited bids from market research firms in Bishkek, Skopje, and Sofia, choosing candidate organizations on the recommendations of USAID program officers, on the results of on-line resources, on the recommendations of ASU contacts in Macedonia and Bishkek, and on the advice of USAID contractors.

In Bulgaria we received three bids, all from commercial research firms. We chose Vitosha Research on the basis of its past experience, price, the range of services offered, and the recommendation of past clients.

We received two bids from Macedonia, one from a market research firm and one from an academic consortium. Both the survey firm and the consortium included among their staff participants in USAID Participant Training Program training conducted at ASU. Despite our own preference and our mandate to partner with academic institutions in the host countries, in the end we elected to hire the market research firm, Stratum Research. Both organizations were recommended highly, but Stratum came in at two-thirds the cost of the consortium; offered a more complete range of services; had demonstrated experience and a standing staff of pollsters and analysts; and, as a private company, had in place electronic payment systems and financial transparency the consortium was not able to provide.

In Bishkek, we received two proposals, one from a private consulting agency and one from a consortium of state officials and academics. We chose the company, M-Vector Consulting, for much the same reasons as in Macedonia: although both the consortium and the firm came with personal recommendations, M-Vector offered more services, more demonstrable experience, transparent financial arrangements, and considerably greater responsiveness to our questions, and a price roughly half that requested by the consortium.

Fieldwork. Fieldwork in Macedonia and Bulgaria ran from the first week of July until the second week of August. Fieldwork in Kyrgyzstan ran from mid-August to mid-September. Data clean-up and verification, including following up with beneficiaries whose interviews proved problematic, was complete by the end of August in Macedonia, by early September in Bulgaria, and by late September in Kyrgyzstan.

Phase 4: Analysis (2007 Aug – Nov)

Analysis. Datasets were reviewed, cleaned, standardized, and imported into SPSS by the ASU Center for Population Dynamics (CePoD). CePoD worked with the Melikian Center and its survey contractors to resolve reporting, coding, and data-entry issues, a process which took two to three weeks for each country. Once data were finalized, CePoD generated summary statistics and performed a series of simple regressions, as detailed in our final report. The final data were also sent to co-author Brada, who, with the assistance of co-author El-hadj, constructed econometric models and used them to produce the analyses contained in our report.

Final Report. ASU prepared between August and November a draft final report, which it sent to internal and external reviewers and to USAID. ASU presented the main findings from this report to USAID personnel in Washington, D.C., in December 2007. In response to feedback gathered at that meeting and from internal and external reviewers, ASU revised its report. The result is the report as submitted.

Phase 5: Promotion and Dissemination of Findings (2007 Dec – 2009 Jan)

Here is a partial list of activities ASU has undertaken and is planning to undertake in order to promote this project and the results it generated.

1. **Presentations**

    a. USAID, Washington, DC, December 19, 2007
    ASU presented key results for representatives of USAID, the Department of State, and others, in Washington, DC, in December 2007.

    b. AAASS, Philadelphia, PA, December 2008
    ASU is organizing a panel on the evaluation project and on the impact of USG assistance on labor markets in transition economies in general as part of the annual convention of the American Association for the Advancement of Slavic Studies in November 2008. The panel is to consist of a representative of the ASU project staff, a representative of USAID, external evaluators for that project, and scholars renowned for their work in the field. In addition to presenting the main findings of the results generated by this project, ASU will make available full copies of the final report. Since the convention is to held in Philadelphia, we anticipate a significant policy-making presence. In addition to ASU project staff, we shall enlist the participation of USAID and external evaluators for that panel.

c. ASSA, San Francisco, CA, January 2009
ASU will organize a panel of papers dealing with job creation. Included among those papers will be a report on the technical analysis of the survey data.

2. Publications

a. ASU's final report, "Assessing the Impact of US Government Assistance on Job Creation," will be available for download through USAID's electronic project library, the DEC, as well as through the Melikian Center website.

In addition, ASU will mail copies of the report to everyone contacted in connection with this project, including USAID mission officers and academic partners in the focus countries. This list will includes ASU Melikian Center partners in Eastern Europe and Eurasia—a list that has now been significantly enriched by the field studies in the three focus countries of the study.

b. Co-authors Bah and Brada will submit a reworked version of the literature review from ASU's report for journal publication, probably to *Comparative Economic Studies*.

c. Bah, Brada, and Yigit plan to submit an expanded version of the survey data analysis to an economics journal, such as the *Journal of Political Economy* or the *Review of Economic & Statistics*.

d. Brada and Bah plan to submit a paper on the effect of incomes and wage changes on aggregate employment, a paper based in part on work performed for the current study, to the journal *Economics of Transition*.

LESSONS LEARNED

This section describes lessons learned in the course of the project. The focus here is on methods and practices for conducting academic evaluations of USAID projects in general and of job-creation evaluations in particular.

Lack of Mission History in Public Domain

With the exception of the Bulgarian Mission, which was compiling its graduation report as the current study was being prepared, none of the missions we approached were in a position to provide a history of the projects conducted in their missions. Posting a list of projects completed (better would be a database with basic project information) to the mission websites would be a relatively inexpensive step that would be invaluable for future researchers and evaluators.

Lack of Employment Data in Public Domain

Publicly available USAID program reports rarely include job creation information. When they do, they almost never describe the method by which job creation figures were derived. Future projects involving job creation ought not to expect to find such information there.

Standardize Evaluation Frameworks

Since USAID programs differ widely in purpose and in structure, no single, generic evaluation scheme can be developed that would generate meaningful results for all programs and would not

introduce incentives that could have unintended effects on program design and implementation. Nonetheless, it should be possible to develop *classes* of evaluation schemes, in a hierarchical framework. Such schemes could foster compatibility in data gathering and reporting across programs and would provide program designers a head start as they considered evaluation.

Collect Data During Program Implementation

Like most measures of program effectiveness, job creation is tracked most efficiently when data are collected from USAID beneficiaries while they are still working with USAID. If USAID wishes to track job creation, it should establish a standard format for periodic wage-bill reporting and include it in the regular reporting schedule for its contractors. That procedure should be coordinated with the framework described in the preceding paragraph.

Collect and Retain Contact Information

Since USAID did not systematically track overseas contacts, did not require contractors to track contacts, and did not consistently maintain records for more than a few years after program close, it is exceedingly difficult to identify past USAID recipients. Since it is impossible to know today what information USAID may need from its beneficiaries tomorrow, it is important that USAID collect and retain contact information and basic demographic information on its partners in the U.S. and overseas. This information should be accessible to researchers on USAID contracts.

Make Evaluation Data Accessible

USAID should make easily accessible to the research community data gathered during evaluations or other procedures. It would be simple to anonymize the survey data collected for the ASU evaluation, and make it available in electronic form.

Opening datasets to the research community will generate a stream of USAID-related research projects. This will lead, at not marginal cost, to more accurate assessments of USAID practices and more informed recommendations.

Encourage Academic Partnerships

In the same way that making data available to external researchers leverages the cost of collecting the data, producing a far greater return than if the data are used only once, educational partnerships between U.S. universities and their academic counterparts abroad can leverage networks of host-country scholars.

In administering academic exchanges and educational partnerships, universities and academic institutes generate broad networks of international scholarly linkage. This puts them in a unique position to draw upon scholarly talent and to build independent analytical teams. Academic researchers are frequently ideally placed to apply innovative techniques and produce defensible, replicable assessments and evaluations, often at relatively low cost.

We recommend that USAID expand its use of academic research centers for project planning and evaluation.

For an illustration of how academic linkages facilitated the work of the current project, see Attachment A, “The Importance of University Partnerships and Exchanges for Evaluation of USAID Projects.”

ATTACHMENT A

The Importance of University Partnerships and Exchanges for Evaluation of USAID Projects.

Arizona State University's Melikian Center maintains more than a dozen strategic educational partnerships, study abroad programs, and exchanges with universities and research centers in Eastern Europe and Eurasia. Part of the goal and expectation associated with the job creation evaluation project conducted for USAID under contract with Higher Education for Development was that the Melikian Center would use their network of academic partnerships to advance the evaluation process. This appended report is offered as an analysis of how these partnerships functioned in the evaluation process. The brief report concludes with a recommendation for future university-based collaboration in USAID evaluation projects.

At the time ASU submitted its proposal for administration of the USAID evaluation project, we were asked to propose specific countries in southeastern Europe and Eurasia that might serve as the focal points for more extended case study evaluations of USAID-related job creation. The countries we recommended were those where the Melikian Center has some of its most active academic exchange partners—namely, Macedonia and Bosnia & Herzegovina in the case of southeastern Europe; and Armenia and the Russian Federation in Eurasia. Unfortunately, of those four countries, only one of the respective USAID country missions—that of Macedonia—responded positively to the call issued by USAID Washington, DC headquarters for volunteer case study subjects. Nevertheless, given our rather far-ranging institutional ties in Eastern Europe and Eurasia, we found that the Melikian Center's university-based academic partnerships provided a significant advantage in conducting the evaluation effort—and often in unexpected informal ways only indirectly related to formal inter-institutional partnerships.

The two countries where this advantage was most felt were Macedonia and Kyrgyzstan. In the case of Macedonia, the ASU Melikian Center has administered an academic exchange of faculty and graduate students since 1973, the longest unbroken academic exchange relationship between an American university and a southeast European partner institution (the University of Ss. Kiril and Metodij in Skopje, UKIM). Of particular importance in that regard were two prior externally-funded projects that brought ASU into direct contact with colleagues having interest in the issues of economic growth and business development.

The first of these was a three-year State Department-sponsored educational partnership in the field of business administration directed by ASU Melikian Center faculty affiliate, Professor Josef Brada, an ASU economist who became a principal author of the ASU study, "Assessing the Impact of U.S. Government Assistance on Job Creation." The business administration partnership, a project from the 1990s, brought more than a dozen colleagues from the UKIM Faculty of Economics to ASU for semesters-in-residence, and continues to yield important exchanges of faculty and curriculum between UKIM and the ASU W. P. Carey School of Business. The partnership project director Josef Brada has also translated his work on that partnership into other spin-off projects of great importance for Macedonian economic growth, including his recent work for the UNDP Blue Ribbon Commission on Macedonia. This ability to work closely with Macedonian scholars in the field of economics helped to advance the project not so much by the direct input of Macedonian scholars into the evaluation itself as by the network of contacts that they provided for the ASU project team.

A second externally-funded project that came to bear upon this study was the Melikian Center's administration of two World Learning/USAID START seminars for advertising and marketing

executives from Macedonia in 2002 and 2004. As has been noted in the "Assessing the Impact . . ." study, one of the Macedonian participants in both of those short-term seminars conducted in Arizona was the CEO (Vesna Kumanović) of the Macedonian marketing and survey research company Stratum (Stratum has subsequently been bought by the Germany-based international marketing group, GFK). While the decision to offer the subcontract to Stratum was based upon their competitive bid and not the prior institutional collaboration with their CEO, the care that Stratum gave to the survey reflected, we believe, their determination to do well by an Arizona State University partner with which they have maintained close contact.

In short, while there were other factors contributing to the particularly solid survey results coming out of Macedonia, the network of institutional ties built by Arizona State University in Macedonia provided a level of inter-institutional confidence that contributed to the independence and authority of the subcontracted study. Coincidentally, Stratum survey researchers were surprised when Stratum itself was randomly selected to respond to the survey questionnaire inasmuch as its CEO had been a recipient of USAID-funded training in the U.S.—an unusual case of a survey research company having to survey itself.

In the case of Kyrgyzstan, once again the selection of survey research companies was indirectly affected by ASU's network of collaborating scholars from Eastern Europe and Eurasia. In this case, the pivotal connection was that provided by a Kyrgyz graduate of the ASU M.S. program in agribusiness, Kuvatbek Bapaev. Bapaev, who has served as a chief of party for several international development companies since his return to Bishkek, retains close ties to the Melikian Center where he was supported under terms of an earlier USAID NAFSA/REEP grant administered by the Center. When the ASU evaluation project team received an initial bid from the Kyrgyz national statistical service that was deemed to be somewhat overpriced, we contacted Bapaev to secure his advice regarding potential competitive bidders for the proposed firm-level national survey. It was Kuvatbek Bapaev who first introduced the project to M-Vector, a highly regarded market and survey research firm in Bishkek. The M-Vector bid was not only substantially less expensive than that first secured from the national statistical service, but the specifications they offered more closely conformed to those sought by the project team. The high quality of the work provided by M-Vector, despite the limitations of the sample list of firms identified as receiving USAID technical or financial support, fully justified the confidence Bapaev had expressed in M-Vector. During the site visit to Bishkek, the project team was surprised that Bapaev had never before met the CEO of M-Vector, and thus was operating solely on the objective reputation of the firm, rather than first-hand personal acquaintance.

This appeal to ASU partnership scholars and graduates from the region, all of whom have spent lengthy periods in residence at ASU, was complemented by one further level of Melikian Center international partnership employed on the project. This additional level relates to the Center's work with non-USAID U.S. Government personnel in the region. Dating from its administration of a World Learning START seminar in Arizona conducted for Bosnian local government leaders on U.S. local and state tax systems, the Melikian Center came to work closely with U.S. Treasury representative in the Balkans, Dr. Jean Tesche, who selected the Bosnian participants for the 2000 World Learning project and accompanied them for the seminar in Arizona. Although she was initially identified as a key project team member in the ASU proposal, Jean Tesche was not able to be employed full-time on the project because of the delay in the project start-up. Nevertheless, Dr. Tesche, who was employed in 2007 as a professor in the University of Delaware MBA program in Sarajevo, served as an evaluator for the project study, and also participated in the on-site field visits to Macedonia and Bulgaria.

What these partnerships have demonstrated is the important role that American universities can play in leveraging independent networks of host country scholars for evaluation of USAID international development projects overseas. Universities such as Arizona State University administer academic exchanges and educational partnerships that generate broad networks of international scholarly linkage. Such linkages, in turn, can provide alliances for independent evaluation not tied to the support of a specific USAID contractor. It is this added independent authority that universities with strong academic programming in the region can bring to USAID evaluations. The practical realization of the importance of such university partnerships constitutes one of the significant reinforcements and "lessons learned" from this evaluation project. It is in this context that we recommend expanded use of relevant area-related university research centers for timely external evaluation of USAID projects.