Poland in transition: labor market data collection

Ever since its labor market structure changed along the lines of a free-market economy in 1989, Poland has adopted new techniques and tools for data collection; the country's database now provides cross-sectional and longitudinal indicators of the dynamics of the labor market

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In 1989, Poland became the first member of the former Soviet bloc to reestablish political democracy and a market economy. The fledgling government was faced with a stagnant economy, inflationary pressure, a large external debt, and market inefficiencies. Gross domestic product (GDP) was nearly stagnant, growing by only 0.2 percent, consumer prices had risen by 250 percent, and real wages increased by 9 percent.[1]

In view of the economic situation, the new government introduced radical measures that were intended to stabilize the economy and encourage the development of a free market. The country's much publicized "shock therapy" had begun.

In 1990–91, Poland experienced a deep recession throughout which GDP decreased by almost 20 percent, the demand for labor decreased, and unemployment increased. During the first 3 years of the nation's transformation, both the State sector and the cooperative sector lost 4.6 million jobs, while the flourishing private sector created 2.6 million new jobs.[2] In 1992, the number of unemployed reached 2.8 million, of whom 80 percent had been previously employed.

Since 1992, Poland has experienced annual economic growth ranging from 3 percent to 7 percent; correspondingly, inflation decreased from 585 percent in 1990 to 11.8 percent in 1998. Employment has increased, unemployment has begun to decrease, and real wages have risen once more.

The emerging modern market economy of Poland has required a new economic structure, a strong private sector, and the reallocation of the labor force across sectors, firms, skills, and regions. The burden on legislators has been that, to introduce new policies, a good understanding of the labor market and its dynamics is necessary. In effect, one must know how labor market indicators are measured and how data are being collected.[3] The same burden falls on analysts: in an economy that is changing from a centralized to a market system, the structure, quantity, and quality of data are highly important for both cross-sectional and trend analyses. Accordingly, this article examines the sources and methods of data collection under both the previous centralized system and the current modern, "Western"-type economy of Poland.

The Polish labor market

The economic system of Poland before the transition was characterized by disequilibrium in the labor market, overemployment, a surplus of vacancies compared with the number of jobseekers,

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a concentration of employment in agriculture and industry, and an underdeveloped service sector.

Labor force participation, employment, and unemployment. According to the Polish Population Census, the population of Poland consisted of 38.0 million people in 1989 and was increasing very slowly. By 1998, the population had grown to just 38.6 million, an average annual growth rate of 0.22 percent.

The labor force participation rate decreased from 65.3 percent in 1988 to 56 percent in May 1998. During the 1980s, the employment level was relatively stable, reaching 17.4 million in 1989, but in l995 total employment was about 15 percent lower than it had been in 1989, and the number of jobs in the public sector as a whole had decreased by 40 percent.

In the profit sector (which includes both private and some State-run firms), the decline in employment between 1989 and 1995 was even sharper, reaching almost 60 percent. By contrast, employment in the private sector increased by 13 percent, and in nonagricultural private firms it rose by more than 155 percent.[4] Hired employment (workers employed on the basis of a labor contract of some kind) *fell* by 23 percent, while self-employment *increased* by nearly 22 percent, mostly in the nonagricultural sector.[5]

In December 1989, 66.7 percent of employed workers were concentrated in the so-called socialized sector (State firms and cooperatives). The nonagricultural private sector was very small, but had increased substantially during the second half of the 1980s, from 3.5 percent of employed workers in December 1980 to 10.1 percent in December 1989.

The structure of employment reflected centralized planning priorities in the industrial sectors, and services were underdeveloped. In the early 1980s, 30.6 percent of employed workers worked in agriculture and forestry, 30.3 percent in industry (manufacturing and mining), 7.7 percent in construction, and 31.4 percent in services. By 1989, the share of agriculture and forestry had dropped to 26.7 percent of employed workers, that of industry had decreased to 28.8 percent, that of construction had increased to 7.8 percent, and services' share had risen to 36.7 percent. In 1995, the private sector employed 58 percent of all workers (62.4 percent when cooperatives are included); in contrast, employment in agriculture, forestry, and hunting, at 26.9 percent of all workers, was approximately at the pretransitional level, industrial employment had declined to 24.9 percent, and employment in services remained lower than in developed countries.

Under the pre-1989 centralized system, unemployment was not officially defined or measured, although employment agencies collected data on jobseekers and vacancies. In 1989, the number of registered jobseekers was 9,600, while the number of registered vacancies was 254,500.

During the early stages of the transition, registered unemployment increased, peaking at 16.4 percent in 1993 and then decreasing to 10.5 percent in 1998, when the economy improved. Much of the unemployment may be related to generous benefits granted in 1990 to all registered unemployed workers, regardless of their work history, as well as to the relatively long duration of benefits (from 12 to 24 months).[6] These factors may explain why the level of unemployment reported by the Polish Labor Offices is higher than the level reported by the country's Labor Force Survey.

Unemployment among the younger segment of the population (16 to 24 years), at 33 percent, is very worrying. Most of the unemployed in this group are school dropouts with little education (graduates of 2- to 3-year basic vocational schools) and little vocational training.

Despite the rapid increase in the GDP during the past 3 years, the duration of unemployment has changed very little. About 75 percent of the unemployed have been without jobs longer than one quarter and about 45 percent longer than 12 months. Unemployment in Poland has shown substantial and persistent regional differences. For example, the ratio of the highest unemployment rate, in the Suwalki region, to the lowest unemployment rate, in the Warsaw region, was 5.5 in 1990 and 6.0 in 1997.

In sum, because of the rapid development of the private sector, the Polish economy underwent a swift transformation, even though the country was faced with high unemployment due to the sharp decline of the public sector. All in all, the economy and the labor market changed dramatically, and the Polish authorities have had to improve their tools for data collection—and, in some cases, even develop new ones—in order to understand the changing labor market.

Sources of data collection

Under the former centralized system, labor market statistics focused on employment in the "socialized" sector (the State, together with cooperatives), with special interest in the goods-producing subsector.[7] At the time—and still today—one of the chief sources of labor market information was the National Census of Populations, which provided the official estimates of population, labor force participation, and employment. This census was conducted in the years 1960, 1970, 1978, and 1988 under the centralized system, and the next census will be taken in the year 2000 under the new system. Because the National Census is carried out only once every 10 years, it will be excluded from further analysis.

The following sources of data are currently used:

1. Statistics from the Polish Labor Offices, which report on registered jobseekers and vacancies.

2. Firm reports, which are firm-based statistics providing aggregated data on employment and wages.

3. Household budget surveys, which provide information on

incomes, household expenditures, and employment.

4. The Polish Labor Force Survey, introduced in 1992, which yields comprehensive information on employment, unemployment, and wages, by demographic characteristics.

Sources of data collection will be examined from two perspectives: first, by comparing the three data collection sources common to the two periods (see exhibit 1) with respect to what they were like before and after 1989, and second, by comparing current data collection sources with each other (see exhibit 2).

Data collection sources before and after 1989. Exhibit 1 presents a comparison of the three data sources common to the two periods. The sources are compared with respect to their different universes, advantages, and disadvantages prior to the transition and 6 years after it.

1. Labor Offices

(1) Quality of the data. The quality of data collected by the Polish Labor Offices varied substantially between the two periods. Prior to 1989, most of the data from the Labor Offices were incomplete, were highly aggregated, and lacked information about demographic and social characteristics. Information on some sociodemographic dimensions of jobseekers and reported job offers was collected, such as gender (vacancies were announced separately for men and women) and skills (the distinction between manual and nonmanual workers). After 1989, the data on registered unemployment and labor market policies are of relatively good quality. The more detailed data, however, vary greatly in quality, depending on the proficiency of the local Labor Offices (about 400 in number) that collect the data. These offices usually lack a competent staff and are overloaded with the unemployed.

Currently, data on registered unemployment are collected by the local Labor Offices through a structured questionnaire and contain information on *all* registered unemployed, as well as on jobseekers who are employed, but who wish to change jobs. The data include information about some basic sociodemographic characteristics—sex, age, type of education, tenure, last occupation, sector of employment, and location (big city, town, small town, rural area, and so forth)—as well as information about additional skills of the unemployed and their preferences with regard to employment. Further information is collected on the reasons for unemployment (recently graduated school, reentering the labor market, dismissed by employer, "downsizing"), the type of firm (private or public, big or small, industrial or construction, and so on), and the duration of unemployment. Data on vacancies provide information on job offers to school dropouts and the disabled, on whether the offer of employment is permanent or temporary, on whether the offer is in the State or private sector, and on the number of vacancies not filled within 1 month.

In the past, due to a lack of skilled staff and a limited budget, the Labor Offices concentrated mainly on collecting data on unemployment benefit payments, whereas in recent years they have substantially improved their data collection methods and the quality of the data. The Labor Offices keep records on each person's registration, independently of when she or he became unemployed. The data reflect relatively favorable changes in registered unemployment and the passive or active participation of the unemployed in labor market policies.

(2) Scope of the data. The target population of the Labor Offices' services has been extended. Prior to 1989, the agency kept records on all registered jobseekers and reported vacancies. Since 1989, Labor Offices have kept information on all registered unemployed persons, registered employed jobseekers, and reported vacancies.

(3) Advantages. In the past, policymakers were able to obtain only a general picture of the labor market and of basic structural changes in employment. During the transition, more disaggregated information on registered unemployment, job searches, passive and active labor market policies, and vacancies has become available. Data on unemployment and vacancies are currently published every month.

Policymakers can use Labor Offices data on local labor supply and demand to prepare programs to combat local unemployment. Data are available on the size of, and trends in, local labor markets, including *gmina*s, the lowest level of Polish territorial self-government administration; on subsidized employment (for example, public works); on training and retraining; on loans for the unemployed to start their own businesses; and on unemployment benefits. Academic researchers may use these data to identify regional and temporal trends for basic labor market research.

(4) Disadvantages. The main disadvantage of using Labor Offices data is that the information is highly sensitive to legal regulations and local labor practices. For instance, tightening legal or actual criteria of registration will immediately affect the number of unemployed who register with the office.

Under the Communist system, all information was presented to the public annually in a highly aggregated form. Although there were some symptoms of mismatch in local labor markets, unemployment was not officially recognized, and thus, no information was collected on it. The mismatches included an excess supply of graduates in the social sciences and humanities, whereas firms demanded graduates from technical schools, and an excess supply of labor in the eastern part of Poland, while there was a demand for new workers in heavily industrialized Silesia.

A second disadvantage is that no data on the local labor force

Exhibit 1. Comparison of data collection sources in Poland, before 1989 (centralized economy) and after 1989 (market economy)

Source and characteristic	Before 1989	After 1989
Labor Offices		
Quality of data	Incomplete and highly aggregated	Relatively good for registered unemployment and labor market policies
Sample size	All registered jobseekers and reported vacancies	All registered unemployed and reported vacancies
Advantages	Aggregated information on job search and reported vacancies	1. Disaggregated information on registered unemployment, job search, passive and active labor market policies, and vacancies 2. Monthly data on unemployment and vacancies 3. Important for policymakers' source of data on local labor supply and demand
Disadvantages	1. Data are sensitive to legal regulations 2. No data on unemployment (even seasonal) 3. Annual information	1. Data are sensitive to legal regulations 2. All detailed records are kept in local labor offices, not at the national level 3. Data on vacancies might be underreported
Target population	Jobseekers	Unemployed and jobseekers
Firm reports		
Quality of data	Biased by managerial and central-planning practices	Relatively good for formal employment and bigger firms
Sample size	Total employment, with the exception of some "sensitive" sectors (army, police, and so forth)	Total employment in public and private sectors; for small firms, representative probability sample of 5% of total
Advantages	1. General picture on the labor market and basic structural changes in employment, income and wages, working hours, skills of employees, and labor turnover in official State economy 2. Long-term time series	1. More adequate sample for rapidly changing economy 2. Data are presented according to Western classifications and are comparable to international statistics
Disadvantages	1. Focused mainly on State and cooperative sectors 2. Data are aggregated according to specific statistical categories used in Communist countries 3. Not comparable to Western countries' data	1. The adjustment toward international statistical standard was extended for several years; during the first years of the transition, old classifications were in use 2. Highly aggregated 3. Contingent on administrative regulations 4. Small firms (fewer than 6 workers) are excluded from monthly information 5. Employment (and wages) in small and medium-sized firms may be underreported, due to those seeking to avoid high taxation (the social security contribution) and difficulties with the proper estimation of the level of employment in private agriculture
Target population	Employed persons	Employed persons

Exhibit 1. Continued—Comparison of data collection sources in Poland, before 1989 (centralized economy) and after 1989 (market economy)

Source and characteristic	Before 1989	After 1989
Household Budget Survey		
Quality of data	Very limited	Still limited; much better for structural analysis
Sample size	Representative of 90% of population; 28,285 households in 1989	Representative of entire population; about 32,000 households (0.3% of total)
Advantages	The unique long-term and regular survey on household incomes and expenditures	Monthly survey extended to all categories of population, including the self-employed
Disadvantages	1. Annual survey	1. High rate of nonresponse
	2. High rate of nonresponse	2. Operates on average number of persons in household, not the stock of population at the moment of the survey
	3. Self-employed omitted	3. Nonrandom error burdens (declared incomes might be lower than actual incomes)
	4. Operates on average number of persons in household, not the stock of population at the moment of the survey	4. Sample draws independently from Labor Force Survey sample
	5. Nonrandom error burdens (declared incomes might be lower than actual incomes)	5. Not representative of smaller regions
	6. Not representative of smaller regions	
Target population	Employees, farmers, workers-farmers, and pensioners	Total population

were ever collected by the Labor Offices. Calculated rates of unemployment may, therefore, not be fully correct, because information on employment was derived from other sources.

A third disadvantage is that, because all detailed records are still kept in local branches of the Labor Offices and are not stored at the national level, only a limited utilization of the databases on unemployment and vacancies is possible.

Finally, the fourth disadvantage is that data on vacancies may be underreported, because firms are not obligated to report all vacancies, which they were obliged to do under the previous system.

2. Firm reports

(1) Quality of data. Prior to the transition, the quality of data from firm reports was rather low. Managers and central planners, whose primary interest was to provide evidence of the successful fulfillment of the goals of the most recent central plan, tended to bias the data that were collected. On the other hand, under the centralized system, reports on employment and wages were compulsory, and thus, it was easy for the authorities to check and compare information from various sources. Since 1989, the quality of the reports has improved, to the point where they are now a relatively good standard for providing formal information on employment in medium-sized and large firms.

(2) Scope of the data. The population covered in firm reports, though varying with the government in charge, has always been quite comprehensive. Before 1989, the Central Statistical Office collected data on total employment in the economy, but "sensitive" sectors, such as the army and the police force, were not included. Since 1989, firm reports have covered total employment in both the public and private sectors; for small firms, a representative sample of 5 percent was selected for analysis in this article.

The Central Statistical Office also has conducted some followup surveys based on information from firms. In 1985, the Office began to survey the demand for labor in large firms (those employing more than 20 workers—or 50 in mining), and since 1998, medium-sized firms (those employing 6 to 19 workers) have been surveyed as well. Every September, the Office conducts a representative survey of the distribution of wages and salaries among full-time workers. In October 1999, the Office will have initiated a survey that com-

Exhibit 2. Comparison of data collection sources in Poland, 1995

Characteristic	Labor Offices	Firm reports	Household Budget Survey	Labor Force Survey
Responsibility for data collection	Local Labor Offices	Firms and Central Statistical Office	Central Statistical Office	Central Statistical Office
Frequency of surveys	Monthly	Monthly, quarterly, and annually	Monthly since 1993	Quarterly
Sample	Registered jobseeker	Annually, representative of total firms; monthly for bigger firms (>5 persons)	Representative of total population	Representative of total population
Vacancies	Yes	Yes	No	No
Quality of data	Good for registered unemployment; not fully standardized	Good for formal sector and big firms	Good for income and expenditures of population	Relatively high; very good
General information	Only on jobseekers	Only on the employed	Yes	Yes
Information on:				
Sex	Yes	Yes	Yes	Yes
Age	Yes	Yes	Yes	Yes
Disability	Yes	No	Yes	Yes
Marital status	Limited	No	Yes	Yes
Level of education	Yes	Yes	Yes	Yes
Sources of income	No	No	Yes	Yes
Main source of household income	Limited	No	Yes	Yes
Geographical status (urban or rural)	Yes	No	Yes	Yes
Spells of unemployment since January 1990	Partial	No	No	Yes
Employed workers	No	Yes	Yes	Yes
Type of work	No	Yes	Yes	Yes
Hours of work	No	Yes	No	Yes
Wages and incomes	No	Yes	Yes	Yes
Occupation	Employed jobseeker	Yes	Yes	Yes
Tenure	Limited	Yes	No	Yes
Previous and current job search	Yes	No	No	Yes
Additional job (working hours, sector, type of employment)	No	Limited	No	Yes
Professional history, including most recent job termination, reasons for separation, type of work, occupation, firm, and tenure on last job	Limited	No	No	Yes
Employer, including size of firm, sector, and type of ownership)	Limited	Yes	Limited	Yes
The unemployed	Yes	No	Some	Yes
Reasons for job search, including loss of job, resignation from a job, return after a break, and first job search	Yes	No	No	Yes
Flexibility of the unemployed, including readiness				

Exhibit 2. Continued—Comparison of data collection sources in Poland, 1995

Characteristic	Labor Offices	Firm reports	Household Budget Survey	Labor Force Survey
to change occupation, skills, and residence	Limited	No	No	Yes
Reservation wage	Yes	No	No	Yes
Preference for full- or part-time job	Yes	No	No	Yes
Duration of job search	Limited	No	No	Yes
Active job search, including employment agencies, employers, and advertisements	Limited	No	No	Yes
Registration in a local Labor Office	Yes	No	No	Yes
Unemployment benefits	Yes	No	Yes	Yes
Reason for not searching	No	No	No	Yes

bines the data on the earnings distribution with information on the structure of wages and salaries by occupation. In this survey, hourly wages will be estimated for the first time.

(3) Advantages. Firm reports have supplied information on various companies and a number of aspects of local labor markets. Prior to 1989, the reports were the main source of data providing a general picture of the labor market and of basic structural changes in employment, income and wages, working hours, skills of employees, and labor turnover in the official State economy. Soon after the transition began, policymakers required information about employment, dismissals, the unemployment level, and the demand for labor. Firm reports have had to adapt to the international statistical standard, and they have continued to improve. Indeed, since 1989, the reports have more and more reflected the rapidly changing economy. Data are now being collected and presented according to Western statistical classifications and are, for the most part, comparable to international statistics.

(4) Disadvantages. Prior to 1989, firm reports were influenced by, and "adjusted" to, political interests. Under the centrally planned economy, statistical reports focused mainly on the State and cooperative sectors. Data were aggregated according to specific statistical categories used in Communist countries and were not comparable to the data of Western countries. On the microlevel, data were prepared and manipulated to show that the most recent central plan was fulfilled. At the macrolevel, data were presented artificially, to highlight more positive developmental and structural trends over negative trends. Information considered by the authorities to be of high sensitivity included that on employment and salaries in the defense and police forces, poverty, work hazards, and accidents, and data on these variables were confidential or distributed only among a selected list of readers.[8]

Due to changes in statistical classifications, some data on the labor market (especially at the sector level) cannot be fully compared with the data of pretransition years. Currently, such data are highly aggregated and contingent on administrative regulations. Small firms (fewer than six workers) are excluded from the monthly sample, and employment in small and medium-sized firms, both of which are rapidly expanding and creating new jobs, may be underestimated. Small and medium-sized firms may also underreport employment rates and wage levels in order to avoid high taxation (for example, social security contributions). Because of the large range of informal employment (that is, employment undertaken without a formal contract), the Central Statistical Office has experienced serious difficulties in estimating accurately the level of employment in private agriculture.

3. Household Budget Survey

(1) Quality of data. Labor market data collected by the Household Budget Survey appear to be limited, but still can be used as a supplementary source of information on employed workers and for information on structural changes.

(2) Sample size. The percentage of the population covered by the Household Budget Survey appears to be comprehensive. Up to 1993, the survey was representative of 90 percent of the population. Two groups were omitted: the self-employed and those living off income from social welfare benefits. In 1989, the main groups of households in the sample included workers, farmers, pensioners, and employed workers who owned or worked on farms. Together, these groups constituted 28,285 households. Since 1994, the survey has been representative of the total population, and it currently includes about 32,000 households, or 0.3 percent of the number of households in Poland. Data are collected on six sociodemographic groups: employees, farmers, mixed workers and farmers, pensioners, the self-employed, and those supported by social benefits (those

on social assistance and those receiving unemployment benefits, excluding recipients of pensions). Data also are collected on income received from leasing a garage, renting a dwelling, selling real estate, and selling durable goods and on income from capital (dividends, interest, and the like).

(3) Advantages. The Household Budget Survey focuses on aspects of the quality of life. Prior to 1989, the survey was a unique, long-term, regular survey of household incomes and expenditures, employment status and family structure, and wealth and standard of living. The first survey was launched under the Communist system in 1957. Since 1989, the survey has been carried out on a monthly basis, with rotating subsamples extended to all categories of the population. The survey shows the ability of households to adjust to economic changes, especially the effect of the labor market on the living conditions of the population. The survey allows academicians both cross-sectional and panel data analysis.

(4) Disadvantages. The main disadvantage of the Household Budget Survey prior to 1989 was that it was not representative of the whole population, because the self-employed were excluded. Moreover, the methodology was periodically changed from 1957 to 1989.[9] Other disadvantages that existed prior to 1989 did not disappear during the transition and include several weaknesses: first, there is a high rate of nonresponse to the survey; second, the survey is based on the average number of persons in households, and not the size of the population at the time a given survey is conducted; third, deliberately misleading information can be provided, such as an underestimation of one's family income; and, finally, the smaller regions of Poland are not represented.

To sum up the presentation of this subsection, although labor market dynamics and unemployment were of considerable importance during Poland's transition from a centrally planned to a market economy, researchers and policymakers could not rely on the available aggregated data concerning labor market performance. Data that were required for in-depth analyses either were not available or were incomplete, while data that were available and complete were not adjusted to international standards. Since 1989, there has been a substantial improvement in data quality and collection methods.

Data collection sources since 1989. This subsection compares current major data collection sources against each other. Knowing about these sources is a prerequisite for a better understanding of the labor market. As in the pretransition era, the Labor Offices, firm reports, and the Household Budget Survey are three major sources of labor market data. In addition, the Labor Force Survey was begun in 1992. All four sources are currently operating under an elaborate, objective, scientific design, and the data they produce meet international standards. A summary of their characteristics is presented in exhibit 2; the discussion that follows elaborates on those characteristics, each in turn.

1. Responsibility for data collection. The Polish Central Statistical Office is the main governmental authority responsible for all four sources of data collection. Local Labor Offices operate under the "Law on Employment—1989" and provide the central office with information on registered unemployment. Reports from firms are prepared under the "Law on Statistics" and furnish data on formal employment, wages, and firms. The Household Budget Survey and the Labor Force Survey operate under internal Central Statistical Office regulations.

All four data collection sources are financed by a specific budget. Labor Offices reports also are financed through a special labor fund.

2. Frequency of surveys. The frequency of data collection of the four sources varies. Labor Offices surveys and the Household Budget Survey are carried out on a monthly basis, while the Labor Force Survey is conducted quarterly. Firm reports are conducted monthly, quarterly, and annually.

3. Universe. The different sources of data collection use different populations. The data on registered unemployment are collected by local Labor Offices through a structured questionnaire and include information on all unemployed persons registered with the offices, as well as on jobseekers who are employed, but who wish to change jobs. Annual firm reports are representative of the entire economy, while enterprises employing more than five workers report monthly and the nonprofit organizations quarterly. The Labor Force Survey and the Household Budget Survey employ representative samples of the total Polish population.

4. *Vacancies.* Only the Labor Offices and the firm reports provide information on vacancies and the demand for labor.

5. *Quality of data.* The current quality of data collected by the four sources represents a marked improvement over the past. The Labor Offices provide good information on registered unemployment, but their major weakness is that the data are not fully standardized and aggregated at the national level. Firm reports are mainly of good quality, at least with regard to the larger firms. The Household Budget Survey provides good information on incomes, expenditures, and housing conditions of the total population. The information from the Labor Force Survey on overall labor market dynamics and structural changes is of relatively high quality.

6. *General information.* All four sources provide information on sex, age, disability (if any), and the level of education completed. The Labor Force Survey and the Household Budg-

et Survey have records on marital status, sources of income from employment, and other main sources of household income. Data collected by those two surveys and by Labor Offices surveys are provided, and can be analyzed, on a location-by-location basis.

7. *Employed workers*. The Labor Force Survey, the Household Budget Survey, and firm reports include information on employed workers by various categories: the type of work they do, the number of hours they work (with the exception of the Household Budget Survey), and their wages or incomes. All three sources also contain information on the employer (for example, the size, sector, and type of ownership involved).

The type of occupation is reported by all four sources, while information on tenure is reported by the Labor Force Survey, firm reports, and, partially, the Labor Offices.

The Labor Force Survey and the Labor Offices provide information on the worker's past employment history (most recent job termination, reasons for termination, type of work, occupation, firm ownership, and tenure on last job), as well as any previous and current job search undertaken. Data on workers holding more than one job include information on working hours, sector, and type of employment and are collected by the Labor Force Survey and, to some extent, firm reports.

8. *The unemployed*. The Labor Offices and the Labor Force Survey are the two "richest" sources of information on the unemployed and on jobseekers. Both sources collect data on the reasons for the job search, which include information about the loss of job, resignation from a job, the worker's return after a break, and whether the job search is the first ever for the individual. There is also information on the flexibility of the unemployed person (such as his or her readiness to change jobs, skills, and residence), as well as information about the person's reservation wages, preference for a full- or part-time job, duration of job search, job search activity (employment agencies visited, employer advertisements read, and so forth), registration in a local Labor Office, and unemployment benefits received. The Labor Force Survey is the only source that provides data on the reasons for *not* searching for a job.

The Labor Force Survey

In 1992, the Central Statistical Office began monitoring labor market developments by introducing the Labor Force Survey, which is based on widely accepted international concepts and definitions.[10] Because of the prominence of this survey, which is now considered to be the major source of data collection for labor market analyses, the rest of this article is devoted to examining it alone.

Methodology and sample. The Central Statistical Office treats a representative sample of the labor force. Estimates of standard errors are 0.7 percent for the employment rate and 3.6 percent for the unemployment rate. Interviews are conducted during the 3rd week of the middle month of a quarter (for example, for the fourth quarter of 1995, from November 13 to November 19). The Labor Force Survey covers about 22,000 households (0.18 percent of all households), which is equal to about 55 thousand interviewees, representing the noninstitutionalized population of Poland. Table 1 shows the sample size in each quarter.

People aged 15 years and older were included in the sample. Members of households staying abroad or residing in dormitories or Army barracks, homeless people, and those living in sheltered houses for the poor were excluded from the sample. (Soldiers living in private households were included.)

Sampling strategy. As shown in Exhibit 3, for the first four quarters of the Labor Force Survey (May, August, and November 1992 and February 1993), the sample consisted of the same persons (the full panel) as shown in Table 1. In May 1993, the Central Statistical Office introduced a rotation method for selecting the samples. Since then, the sample for each quarter has consisted of four subsamples selected independently: two from the previous quarter, one introduced for the first time, and one that participated exactly 1 year before. Half of the sample differed between consecutive quarters. Thus, each person surveyed was in the sample for two quarters, was excluded for another two quarters, was included again for two quarters, and then was excluded altogether.

The rotating-panel method was found to be necessary to avoid attrition and frequent changes in residence. About 10 percent of the sample failed to be interviewed, either because they refused to do so or because the individual was unable to be located. This high rate of nonresponse to the survey was especially severe in the large cities (reaching 29.4 percent in Warsaw), as opposed to rural areas (3.7 percent).[11] Attrition and "round-tripping" (that is, changing one's labor market status among employment, unemployment, and being out of the labor force during the quarter and then returning to the original status before the next survey) were relatively low; "round-tripping" was higher for the unemployed than for the employed or those not in the labor force.[12]

Table 1. Labor Force Survey samples of 19 quarters, 1992–96

[Thousands of interviewees]

Year	Quarter and month			
	I, February	II, May	III, August	IV, November
1992	([1])	45.3	45.9	45.7
1993	45.9	50.4	52.7	54.6
1994	55.6	54.7	54.3	53.8
1995	54.3	54.8	54.7	54.5
1996	55.0	54.7	54.3	54.7
1997	54.3	54.6	54.9	54.7
1998	54.9	54.5	54.4	54.8

[1] No survey conducted; Labor Force Survey began May 1992.

Exhibit 3. Labor Force Survey rotation samples, 1993–97

Sample number	Years and quarters																			
	1993				1994				1995				1996				1997			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1	X																			
2	X	X																		
3		X	X																	
4			X	X																
5	X	--	--	X	X															
6	X	X	--	--	X	X														
7		X	X	--	--	X	X													
8			X	X	--	--	X	X												
9				X	X	--	--	X	X											
10					X	X	--	--	X	X										
11						X	X	--	--	X	X									
12							X	X	--	--	X	X								
13								X	X	--	--	X	X							
14									X	X	--	--	X	X						
15										X	X	--	--	X	X					
16											X	X	--	--	X	X				
17												X	X	--	--	X	X			
18													X	X	--	--	X	X		
19														X	X	--	--	X	X	
20															X	X	--	--	X	
21																X	X	--	--	
22																	X	X	--	

X = in the sample.
— = not in the sample.

NOTE: Samples 1 and 2 are obtained from the sample of the same households used in surveys conducted between May 1992 and February 1993. Samples 3, 4, and 5 are new samples with a shorter duration of service, and samples 6 and higher are new samples with a regular duration of service. Since the second quarter of 1993, samples have been selected according to the following rotation scheme: in a given quarter, the Labor Force Survey uses two samples surveyed in the previous quarter, one sample introduced into the survey for the first time, and one sample not surveyed in the previous quarter, but introduced exactly a year before; thus, each sample is in the survey for two quarters, out of the survey for two quarters, and then again in the survey for two quarters.

The rotating-panel method enabled the size of the subsample to increase. For example, in November 1993, the sample size became bigger as a result of an increase in the number of persons living in rural areas.

Type of data. The Labor Force Survey questionnaires include questions about employment, the number of working hours, the worker's job search, wages, the reservation wage, job tenure, registration of the unemployed, unemployment benefits, active labor market policies, labor market participation, and more. The survey affords the opportunity to estimate the magnitude of underemployment in the economy. Full-time workers are asked not only how many hours they worked per week, but also why they worked less than 39 hours when they did so. (One possible answer is "insufficient work.") Part-time workers are asked to specify their reason for assuming that status: among the possible responses are "unavailability of a full-time job" and "personal or family reasons." Persons not in the labor force are classified by reason for not seeking employment, including "discouragement due to inefficiency of job search."

Twice a year, a set of supplementary questions or a special questionnaire is added to the standard Labor Force Survey. For example, in August 1994, a questionnaire composed of 75 questions evaluating labor market policies was presented to the interviewee, and in August 1996, a questionnaire composed of 73 questions on the efficiency of labor market policies was administered. Also, from 1995 to 1998, a special questionnaire with 20 questions on unregistered employment accompanied the survey in an attempt to measure the scale of the "hidden economy."

In order to reach international standards of data collection, the Labor Force Survey has had to change continuously. Since May 1992, there have been five versions of the survey questionnaire. Through these changes, the continuity of the data remained unscathed. The currently used questionnaire is much more comprehensive than the previous ones. The survey has adopted definitions of employment and unemployment recommended by the International Labor Organization. (See box, p. 14.)

The classification of the worker's employment status is based on the International Classification of Status in Employment. The four categories are "employer," "self-employer," "employee," and "unpaid family worker." The Polish version of the European Classification of Activities—the Nomenclature des Activités

de Communauté Européenne—and the International Standard Classification of Occupations (ISCO-88) are used to determine sectional and occupational activities of the employed and the unemployed.

The current Polish Labor Force Survey is of much the same standard as the labor force surveys of other Western countries, and, as mentioned, international definitions recommended by the International Labor Organization are applied. Certainly, the survey is the most comprehensive source of data on the Polish labor market, and the data are of good quality for international comparisons.

The main results of each survey are released and published in a special series by the Central Statistical Office. Data obtained from the Labor Force Survey are highly useful for a better understanding of the Polish economy and labor market dynamics. The main advantages of the survey are similar to those of surveys in other countries:

1. More reliable information on the Polish labor market and its structural changes during the transition is available for policymakers, who, using that information, may now more realistically plan for and create new jobs in the various sectors of the economy and regions of the country.

2. The effects of privatization on labor market transitions can be studied by detecting the movement of labor from the public to the private sector.

3. The Labor Force Survey is independent of legal regulations having to do with the labor market and allows an estimation of employment in the "gray economy," measured by the magnitude of unregistered employment.

4. The Labor Force Survey is an important source of information on self-employment, as well as employment in very small firms. This information is usually not covered in other statistics published by the Central Statistical Office. Moreover, the identification of problematic groups in the labor market (for example, the long-term unemployed, youth, women, the low skilled, and people in underdeveloped regions) is facilitated by such information.

5. In the data produced by the survey, policymakers have a comprehensive database for assessing the efficiency of labor market policies (for example, unemployment benefits, training programs, vocational schools, and so forth).

6. Academic research benefits from the Labor Force Survey's improved data sets, which include information on the personal characteristics of workers and the unemployed. Researchers can study labor market dynamics and transitions, as well as labor flows among both regions and sectors. The fact that there have been 28 Labor Force Surveys to date allows the performance of time-series analysis as a complementary source for estimating employment and unemployment dynamics. Detailed characteristics of the unemployed provide the basis for analyzing structural unemployment, which may very well be the main problem facing countries in transition.

7. The survey's use of international labor market standards—a prerequisite for entry into the European Union—provides solid ground for comparisons with other countries.

Despite these advantages, the Labor Force Survey does not provide a full picture of the labor market and has several "infant" growth problems:

1. The survey contains comprehensive data on the supply of labor, but not the demand for labor. Employers can, however, at least derive an approximation of the structure of labor demand from new hires.

2. Several important issues, such as trade union membership, are omitted from the survey. (The Polish Central Statistical Office does not systematically collect information on trade unions; some attempts to survey trade unions have been undertaken, but no results were published, because of the high level of nonresponse, which rendered the data unrepresentative.)

3. Some questions in the survey have a relatively low response rate; for example, people are reluctant to disclose information on their wages.[13] This reluctance may be due to psychological barriers or a lack of trust in the tax administration office, despite guaranteed confidentiality. However, earnings based on Labor Force Survey data and earnings figures from the special wage survey conducted by the Central Statistical Office do not reveal any significant differences.[14]

4. Labor Force Survey interviewees display a lack of knowledge in response to several questions. For example, firm ownership is not always clear, because many employees do not know their firm's affiliations. Moreover, firms may be under multiple ownership, including State, private, communal, and cooperative ownership.

5. The dimension of labor turnover might not be identified if it occurs between two surveys.

6. Home categories in the Labor Force Survey are too broad. For example, there are only two levels of industrial sectors and occupations. (The Central Statistical Office aggregates all occupations into bigger subgroups.) This dichotomy may reflect difficulties with the precise classification of the sectional and occupational status of each person.

Labor classifications in Poland

The *employed* are all persons aged 15 years and older who, during the reference week,

- worked for at least 1 hour for which they received pay or income—that is, they were employees, worked on their own (or a leased) farm, or ran their own nonagricultural business—or helped run a family farm or a family nonagricultural business without pay; or
- did not work (for example, because of sickness, leave, stoppages in the enterprise, bad weather, or a strike), but formally had jobs as employees or were self-employed.

The employed also include apprentices who entered into an occupational training or occupational preparation contract with a private or public employer, if they received renumeration.

Full-time workers are those who, during the reference week,

- worked for 40 or more hours in all their jobs,
- worked for less than 40 hours, but that number of hours constituted full-time work in their cases (as, for example, the hours of teachers or people working in hazardous conditions), or
- worked for less than 40 hours for noneconomic reasons, but who usually worked full time.

The *unemployed* comprise persons aged 15 years and older who meet the following three conditions:

- In the reference week, they were not employed (according to the preceding criteria).
- They were actively look for a job; that is, for more than 4 weeks (the reference week being the 4th one), they had been involved in specific, identifiable actions directed toward finding a job.
- They were ready (able) to take a job in the reference week and the next week.

Persons who were not searching for a job because they had gotten one and were only waiting to start it (in the upcoming 30-day period) also are included in the category of the unemployed.

The economically inactive population, or persons *outside the labor force*, are all those aged 15 years and older who were not classified as employed or unemployed—that is,

- persons who neither worked nor sought a job during the reference week; and
- persons who did not work and who did seek a job during the reference week, but who were not ready to start a job during the reference week or the following week.

SOURCE: *Labour Force Survey in Poland, August 1998* (Warsaw, Central Statistical Office, 1998), pp. x–xii.

7. The unemployment rate may be overestimated in the Labor Force Survey. According to one author, throughout the period from May 1992 to November 1995, about one-fourth of the workers classified as unemployed by the survey declared that they were not looking for a job, despite their affirmative answer to the question that directly asked them whether they were seeking a job.[15] These persons are classified as unemployed by the Central Statistical Office, even though they represent a deviation from the International Labor Organization's recommended protocol, which requires that the individual actively have searched for a job during a recent period.

8. The Labor Force Survey sample is not representative of small regions and limits detailed disaggregated analysis at the local level.

In general, the Labor Force Survey provides a sizable set of information that is not obtainable from other sources. It appears to be an advanced and flexible tool for studying labor market developments and can easily be adjusted to current Polish needs.

THERE ARE FOUR MAJOR SOURCES OF DATA concerning the Polish labor market: the Labor Offices, the Labor Force Survey, firm reports, and the Household Budget Survey. The Labor Force Survey is the most detailed and exhaustive breakdown of labor force movements and affords the best information on the labor market, employment, unemployment, and structural changes. The Labor Offices provide detailed information on registered unemployment, and the Household Budget Survey furnishes information on the living conditions of the population. In view of the improvements made since 1989, in spite of the various problems that still exist, Poland is clearly moving toward an efficient data collection system based on international standards that will be similar to the systems of modern Western countries. □

Notes

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[1] Data relating to Poland's macroeconomic performance come from statistical yearbooks of the Polish Central Statistical Office.

[2] See M. W. Socha and U. Sztanderska, "Recent Developments in the Polish Labor Markets: Structural Adjustment in Employment," in H. Lehmann and J. Wadsworth, eds., *Labor Market by Design: Labor Market Policies and Creative Use of Household Surveys in Transition Economies* (London, Munich, and Cologne, Weltforum Veralg, 1996), pp. 31–45.

[3] See Susan Powers, "Statistical needs in Eastern Europe," *Monthly Labor Review*, March 1992, pp. 18–28.

[4] U. Sztanderska, "Changes in the Labor Market: From Rapid Collapse to Step-by-Step Reconstruction of the Demand for Labor," in *National Report on Human Development: The Changing Role of the State, Poland '97* (Warsaw, United Nations Development Program, 1997).

[5] *Ibid*.

[6] The registration of jobseekers and unemployed workers at the labor offices opened up access to all opportunities offered under labor market policies, as well as to some welfare benefits, including unemployment benefits, free health services, social security benefits, access to job offers reported to Labor Offices, and opportunities to participate in public works, subsidized employment, and training and retraining. Most notably, recent high school and college graduates were strongly motivated to be unemployed by the existing structure of unemployment benefits.

[7] This focus is based on the Marxian distinction between productive and nonproductive labor.

[8] During the years 1951–55, the Central Statistical Office was forced to discontinue open publications, including the *Statistical Yearbook*. After a break, the 1955 yearbook was published in 1956. The first *Statistical Yearbook of Labor* was issued in 1969.

[9] For a comprehensive description of the development of the Household Budget Survey, see J. Kordos, "Forty Years of the Household Budget Surveys in Poland," *Statistics in Transition*, December 1996.

[10] For more details about the introduction of the Labor Force Survey, see *Labour Force Survey in Poland*, November 1997 (Warsaw, Central Statistical Office, 1998); and J. Witkowski and A. Szarkowski, "The Polish Labour Force Survey," *Statistics in Transition*, June 1994.

[11] *Labour Force Survey in Poland, November 1997* (Warsaw, Central Statistical Office, 1998), p. ix; see also A. Szarkowski, "The Labor Force Survey: Outline of Sampling and Estimation Design," mimeo (Warsaw, Central Statistical Office, 1994).

[12] Attrition of the panels was 7.5 percent; see M. Gora and H. Lehmann, "How Divergent Is Regional Labor Market Adjustment," Discussion Paper No. 21 (Munich, Institut für Wirtschaftsforschung, February 1995), p. 2.

[13] The Labor Force Survey collects information only on *net remuneration*, not on wage rates.

[14] See J. Rutkowski, "High Skills Pay Off: The Changing Wage Structure during Economic Transition," *Economics of Transition*, May 1996, pp. 90–92.

[15] M. Gora, *The Labour Market in Poland: 1990–1995; Empirical and Methodological Studies* (Warsaw, SGH, 1996). A more restrictive policy of granting unemployment benefits implemented during the last 2 years could decrease the numbers of unemployed persons who are not actively looking for a job.