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Suggested Rules for an Unemployment Insurance Law for Poland

Christopher J. O'Leary

W.E. Upjohn Institute for Employment Research, oleary@upjohn.org

Upjohn Author(s) ORCID Identifier:

<https://orcid.org/0000-0002-3372-7527>

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**Suggested Rules for
An Unemployment Insurance Law
for Poland**

Upjohn Institute Technical Report No. 97-011

Christopher J. O'Leary

January 1996

The W.E. Upjohn Institute for Employment Research
300 South Westnedge Avenue
Kalamazoo, Michigan 49007-4686

Suggested Rules for An Unemployment Insurance Law for Poland:

A report submitted in partial fulfillment of the terms of deliverable D5 under the contract for TOR 2 which operates using a loan from the World Bank.

January, 1996

Submitted to:

National Labor Office
ul. Tamka 1
00-349 Warsaw
Poland

Ministry of Labor and Social Policy
Nowogrodzka 1/3
00-513 Warsaw
Poland

Prepared by:

Christopher J. O'Leary¹
W.E. Upjohn Institute for Employment Research
300 South Westnedge Avenue
Kalamazoo, Michigan 49007, USA

¹A substantial contribution in preparing this report was made by Thomas E. West, Michigan Employment Security Commission. Saul J. Blaustein, Upjohn Institute retired, and Wayne Vroman, Urban Institute, offered extensive comments on an earlier draft.

Suggested Rules for An Unemployment Insurance Law for Poland

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Part One

Introduction

This document is submitted in partial fulfillment of the terms of deliverable D5 under the contract for the World Bank funded project TOR 2.

An earlier version of this report was submitted in July 1993 to assist the effort by a team headed by Director Anatol Szurmak in the Polish National Labor Office which prepared a draft unemployment insurance (UI) law submitted to the Polish parliament in the Autumn of 1993.

In November 1995 there remained interest in reforming the UI system in Poland. At that time Director Irina Wolenska of the Polish National Labor Center requested that a revision of my July 1993 proposal be prepared, with the emphasis in the revision being the financing system. To that end, an entirely new part has been added to this report.

After the introduction, this document includes four parts. The next part gives background information, which provides a brief summary of the economic and administrative context in which a UI law would be introduced in Poland. The third part presents the proposed rules for a UI system for Poland. The attempt was to present these rules as clearly as possible; no attempt was made to state the rules in a legalistic style. So as to clearly illustrate the proposed rules, in many cases explicit formulae or parameters are given in the proposed rules. The fourth part of this document is an analysis of the suggested rules for a UI system for Poland. The analysis considers each important feature in the sequence in which it appears in the suggested law. The fifth and final part presents detailed discussion of alternative financing schemes for UI together with a set of simulation results to illustrate how these systems work.

Part Two

Background

For this part of the TOR 2 project, the task presented to the Upjohn Institute was to draft rules for an unemployment insurance (UI) system which included a financing mechanism. The Polish Ministry of Labor and Social Policy hoped that the financing system would operate on a trust fund basis and tend toward solvency over the business cycle. During April, 1993 the Poles accepted the argument that for the UI system to have a chance at solvency, it should be used to pay for only UI benefits and not active labor policy (ALP) measures such as retraining and intervention works. The Institute argued that ALPs should be paid for out of general revenues on a discretionary basis.

Currently a 3% tax is levied on total payrolls to fund employment programs. The tax is paid by employers. Taxes collected by this mechanism amount to only about 40% of all benefits currently paid out. With the severe unemployment situation in Poland, about 95% of all expenditures on labor market programs are for unemployment compensation (only 5% goes to ALPs). Also because of the situation, there is a fixed benefit amount, equal to 36% of the average national wage (it amounts to about USD 80), paid each month to eligible beneficiaries. There is also a 45% social insurance tax which is to be paid by employers on total wages; the National Labor Office (NLO) is required to pay this for unemployment compensation beneficiaries. In practice this tax is not being paid now because of the financial difficulties. Furthermore, there is a progressive income tax system. The lowest rate of 20% applies to UC beneficiaries, and again because of financial problems this withholding is generally not transferred from the NLO to the tax authority.

There is a widespread problem in Poland which is referred to as "Black Labor." In the United States this type of employment is said to be part of "the underground economy." Many people, including UC recipients, have jobs on which they are paid cash under-the-table. While this phenomenon is probably more due to the 45% social insurance tax than the 3% employment tax, the Poles would be interested in a UI law which recognizes this and attempts to deal with it.

There are 49 voivods (states) in Poland. Currently labor market programs operate under national laws with nationally provided funding. Naturally, the programs are administered and monitored at the voivod and local levels.

In Warsaw, during a March, 1993 trip some preliminary ideas about features to be included in a new UI law for Poland. The following were received with interest:

- (1) Separate the UI system from active labor market programs (ALPs). UI benefits should be an entitlement for persons with a work history and continuing labor force attachment--it is a passive measure of labor market policy. UI should be paid for from special tax revenues which are held in a UI trust fund. UI is the first line of defense against unemployment and the payment of benefits should be guaranteed by a promise to make loans from general revenues if needed. ALPs should be operated as discretionary programs which are paid for out of general governmental revenues with the design and funding level changed periodically to depending on economic and political conditions.

- (2) The current UC program contains elements of both social welfare and UI. These must be separated. For example, if social policy calls for maternity benefits, they should be paid from the social welfare fund not from the UI fund. Also, eligibility for UI benefits should not be based on the current income of the spouse or other household members.
- (3) A required waiting period (perhaps two weeks long) might be included at the beginning of the period of compensable unemployment. This acts as a kind of co-payment by the benefit recipient. It may greatly reduce benefit payments, and reduces compensation when need is the least and other sources of income are less likely to be exhausted--at the beginning of a spell of unemployment.
- (4) Provisions to reduce "black labor" should be considered. These might include use of "experience rating of UI taxes" to encourage employers to increase their reporting of wages, an incentive for workers to want earnings reported in order to qualify for UI benefits, and a "partial benefits" schedule to encourage part time work with reporting of earnings by the worker.
- (5) The current system for benefit denials must be stated more clearly. That is, the conditions for denial and the period of denial, temporary or permanent, must be clearly stated for as many objective cases as possible.
- (6) Provisions for "work sharing," which is popular in the German UI system, might also be considered.

Among the above points, item (4) having to do with experience rating an partial benefits raised the most questions from the Polish side. Details about these points are given in what follows.

Among members of the Steering Committee for TOR 2, Director Olejarz guidance regarding preparation of a proposed UI system for Poland was the most substantive. His opinion was that the Upjohn Institute should propose some explicit design for a system including a discussion of the advantages and disadvantages of the various parts of the system, and that the presentation should include a description of the role of the institutions involved. Director Olejarz suggested that, in order to avoid creating new institutions, the UI Fund should be operated by labor offices. He asked that the role of the Ministry of Labor and Social Policy and the National Labor Office as well as voivod and local labor offices to be described in the proposal. The content and style of presentation of what follows is in accordance with the request of Director Olejarz.

Part Three

Proposed Rules for An Unemployment Insurance System for Poland

I. Objectives of Unemployment Insurance

- A. Temporary partial wage replacement during periods of involuntary unemployment to reduce hardship;
- B. Minimize the duration of unemployment by promoting rapid and suitable reemployment;
- C. Limit economic downturns by supporting consumer purchasing power in the community and nation;
- D. Encourage stabilization of employment within enterprises.

II. Coverage

Coverage under this act must be provided to all employees by all employers who have a total annual payroll which equals or exceeds six times the average monthly wage in Poland. For purposes of this act employment is defined as service performed for an employer for compensation subject to the following exclusions:

- A. Self employed persons;
- B. Employees of churches;
- C. Services provided by children or the spouse of an owner of an enterprise;
- D. Services provided by individuals who are principally compensated on a commission basis;
- E. Services provided by persons who are primarily students;
- F. Employees of a custodial or penal institution while resident;
- G. Publicly elected officials;
- H. Services provided under work-relief or work-training programs.

III. Eligibility for Benefits

A. Monetary Eligibility: Required Work Experience

Eligibility for benefits depends on employment during the base period. The base period is defined as the first four of the last 5 completed calendar quarters. Total earnings during the base period must be at least 3 times the average monthly wage in Poland. Total earnings must also be at least 150 percent of earnings in the calendar quarter of the base period with the highest earnings.

B. Non-monetary Eligibility: Separation Issues

Disqualification for benefits will result for employees who have been separated from their previous employer for the following reasons:

1. Discharged for misconduct involving a wilful or wanton disregard of an employer's interests. Under this section misconduct is meant to include but not be limited to theft, excessive unexcused absences, destruction of property, assault and battery;
2. Discharged for intoxication while at work due to alcohol or other controlled substances;
3. Voluntary leaving of employment unless for a compelling reason such as sexual harassment or work place safety;
4. A strike or lockout associated with a labor dispute where the compensation and other conditions of employment are directly determined by the collective bargaining agreement being disputed.

The burden of proving eligibility differs between situations of voluntary leaving and dismissal for misconduct. To be qualified in a situation involving voluntary leaving, the worker must show that there was "good cause" for leaving due to actions of the employer, for example, sexual harassment or work place safety. To be disqualified for misconduct the employer must show evidence of an intentional disregard of the employer's interests on the part of the worker, for example theft or vandalism.

An individual who has been disqualified because of a separation issue may establish eligibility for benefit payment to begin under the following conditions:

1. Fulfills all other conditions for benefit eligibility in each of three separate months in the cases mentioned in points III.B.1, III.B.2, and III.B.3.
2. The strike or lockout associated with a labor dispute has ended.

C. Initial Eligibility Determination

Every application for benefits shall be reviewed by an eligibility examiner at the Local Labor Office (LLO) where the application for benefits was first made. An eligibility examiner is a clerk who does not necessarily have formal legal training, but has a complete understanding of the UI law. The eligibility examination clerk makes an initial eligibility determination, based on information given in the initial application for benefits and supplemental information provided by the previous employer. Written copies of the initial eligibility determination are sent to both the claimant and the previous employer. Any appeal of the initial eligibility determination by an employer or claimant must be made in writing within 30 days of the initial eligibility determination.

D. Continuing Eligibility Criteria

For claimants who have the required work experience and are not disqualified because of the circumstances of separation from their employer, benefits will be paid if the following continuing eligibility criteria are satisfied:

1. The claimant must be able to work. That is, the claimant possesses both the physical and mental capacity to perform their customary work;
2. The claimant must be available for work. That is, ready and willing to report to suitable work which will be scheduled during customary hours for the claimant's occupation;
3. The claimant must be actively seeking work. That is, actively trying to gain full time regular employment using all means appropriate for the claimant's occupation;
4. The claimant must register with the public placement service and participate in any employment interviews for suitable work arranged by the public placement service;

5. The claimant may not refuse suitable work. Work offered to a claimant will be deemed suitable if it satisfies the following conditions:
- a. The work does not involve excessive risk or hazard to health, safety, or morals;
 - b. The physical demands of the work do not exceed the claimant's abilities;
 - c. The work is consistent with the claimant's prior training, work experience, and earnings level;
 - d. Round trip travel between home and a work place where a job is available, does not exceed regional norms (usually less than a total of three hours per day) using customary means of transport.

The range of what constitutes suitable work will be broadened as:

- i. Reemployment prospects in the customary occupation decline;
- ii. A claimant's duration of unemployment lengthens.

An individual who fails to satisfy continuing eligibility criteria III.D.1 or III.D.2 for certain days in a given month will lose eligibility to benefits for those days.

An individual who fails to satisfy continuing eligibility criteria III.D.3 on any day during the month on which he is able and available for work will lose eligibility to benefits for that month.

An individual who fails to satisfy continuing eligibility criteria III.D.4 in a given month will lose eligibility to benefits for that month.

An individual who fails to satisfy continuing eligibility criteria III.D.5 in a given month will lose eligibility to benefits for that month and for the next month during which all eligibility criteria are met.

E. Employer and Claimant Appeals of Eligibility Decisions

If either a claimant or a previous employer disagrees with an eligibility decision made by an official, an appeal may be filed. The appeal must be in written form and must be filed, within 30 days of the decision being appealed, with an official in a local office. There shall be three levels of decision making for benefit eligibility appeals. Written request must be filed to proceed to the next level in each case.

Level 1 - is the local level where decisions are issued by eligibility examiners who are clerks. They do not necessarily have formal legal training, but do have a complete understanding of the UI law.

Level 2 - is the voivod level where decisions are issued following administrative hearings conducted by administrative law judges who have formal legal training.

Level 3 - is the national level where final non-appealable decisions are issued following administrative hearings conducted by a panel of federal administrative law judges who have formal legal training. This panel is called the "Board of Review."

The eligibility appeal process may include up to three decisions following the initial eligibility determination. It shall be conducted as follows:

Decision 1 - is made at level 1 in the local office. The decision on an appeal shall be made by a different eligibility clerk than the one who made the initial eligibility decision. The decision may or may not involve new information provided by the employer and the claimant involved in a separation. Any appeal of this decision by an employer or claimant must be made in writing within 30 days of the decision.

Decision 2 - this level involves oral testimony and written evidence from both sides. If a claimant or employer requests assistance in preparing or attending an appeal hearing, an advocate shall be provided. Any appeal of this decision by an employer or claimant must be made in writing within 30 days of the decision.

Decision 3 - this level rarely involves new oral or written testimony. The standard procedure is simply to review the record from Decision 2. Usually, new information is only added at this level if it was unavailable at the time of the level 2 hearing. The decision of the "Board of Review" made at this level is final--there is no possibility of appeal.

IV. Benefits

Once an individual is determined to be eligible for benefits, that individual can receive the benefit payments during the 12 month period which begins on the day from which benefit eligibility is established. This 12 month period is referred to as the benefit year.

A. Monthly Benefit Amount

The monthly benefit amount (MBA) to be paid to eligible claimants shall be one-sixth (1/6) of the claimant's high quarter earnings. The following limitations on the MBA apply:

1. In no case shall the MBA exceed fifty percent of the average monthly wage in Poland;
2. In no case shall the MBA be less than ten percent of the average monthly wage in Poland.

B. Mandatory Non-compensable Period of Unemployment

Following the date of filing, there shall be a two week (14 calendar days) period for which benefits will not be payable. In order for days of unemployment to be compensable after the two week period, all conditions for benefit eligibility must be satisfied during the two week non-compensable period.

Claimants who become reemployed on a new full-time job (not a recall to the previous job), which is not subsidized by the state, within 2 months of filing for benefits while unemployed, may be paid an amount equal to their MBA as an incentive for early return to work. The reemployment incentive payment can only be made once during a benefit year, and if it is paid will be deducted from the total value of their benefit entitlement.

C. Duration of Benefits

The total amount of payments available during a benefit year is limited to one-half of total base period earnings or 12 times the maximum MBA which ever is lower. The maximum duration of benefits is the total amount of payments available divided by the MBA or 12 months which ever is shorter.

D. Benefits for Partial Unemployment

To provide an incentive for beneficiaries to work at least part time, in figuring the MBA for claimants who are working part time earnings up to 10% of the average monthly wage in Poland shall be disregarded, but the MBA shall be reduced by 50% of all earnings in excess of the disregard.

E. Reduction in Benefits Due to Pension Receipt

Individuals receiving pension benefits during a month of unemployment during which they are otherwise eligible for unemployment benefits, will have their monthly benefit reduced by the amount of pension income received in that month.

V. Financing

A. Benefit Financing

1. Benefit Trust Fund

A Benefit Trust Fund will be established to provide for the payment of unemployment benefits. Employers will pay taxes to support the costs of those benefits. The Benefit Trust Fund will be administered by the National Labor Office.

The Benefit Trust Fund must be able to meet three separate objectives: (1) paying current unemployment benefit costs, (2) accumulating reserves for future benefits, and (3) supporting the costs of certain additional benefits during periods of high unemployment.

In addition, there must be a mechanism to ensure the continued payment of benefits from other resources if the Benefit Trust Fund temporarily becomes insolvent.

2. Benefit Funding Mechanism

The system of financing unemployment benefit costs is based on the principal of experience-rating. Under complete experience rating, each employer is responsible for the cost of unemployment benefits paid to former employees. A high degree of experience-rating means that a layoff results in higher direct future unemployment tax rates. Conversely, employers with stable employment histories receive a direct monetary incentive to provide stable employment: lower tax rates. More generally, experience rating leads to employer involvement in the administration of UI, resulting in a generally more efficient system.

In order to operate a UI tax system based on experience rating, a separate reserve account must be maintained for each employer. To maintain these separate records of each employer's experience, the National Labor Office will assign every employer a unique identification number to be used to maintain individual employer reserve account information. The National Labor Office will maintain records of all benefit charges according to the claimant's name, identification number and the employer to which

the unemployment benefits are to be charged. The benefit charges are the basis for calculating an employer's future tax rate.

At the end of each calendar quarter, the employer will receive a summary statement showing the amount of unemployment benefits paid to each former employee. These benefit charges, are used to determine the total benefits charged to the employer's reserve account. The benefit charges reflect all benefits paid to former employee's, except for the benefits that are socialized to all employers--for example voluntary quit requalifications.

Once an experience rating tax system is established, tax and benefit information from four calendar quarters (perhaps one calendar year) is used to establish future tax rates. This period of time is referred to as the "computation period." The employer's reserve account balance will be calculated based on data collected for the "computation period" and reported to the employer annually.

All taxes paid by an employer will be credited to that employer's reserve account and all benefits paid to former employees will be charged to that employer's reserve account. An employer who has paid more taxes than former employees have collected in unemployment benefits is referred to as a "positive balance" employer. Generally, "positive balance" employers have favorable experience and are rewarded with low unemployment tax rates. Alternately, an employer that has paid less in unemployment tax than former employees have received in benefits is known for purposes of experience-rating as a "negative balance" employer. Negative balance employers will be assigned higher unemployment tax rates to reflect their direct unemployment costs. However, there will be limits as to how high a negative balance employer's tax rate can go.

It is important to note that an employer's reserve account will only be used to calculate the experience of the individual firm. It does not become a direct asset or liability which should appear on the firm's balance sheet. It only relates to future unemployment tax rates.

The calculation of an employer's tax rate will be determined on the basis of a "reserve-ratio system." This means that the individual employer's reserve account balance will be the primary factor in assigning the employer's individual tax rate. The individual employer's tax rate will be calculated by dividing the employer's reserve account balance by their total wages paid in the computation period and referring to a tax schedule. Depending on the condition of the overall benefit trust fund, different tax schedules will be used. However, the rate schedules should also factor in the socialized benefit costs. The socialized tax is a small flat tax that every employer pays

to support the costs of benefits which cannot be charged to a particular employer's reserve account. Socialized benefit charges include all benefits paid to claimants who are disqualified for separation reasons but later requalify--as stated in Section III.B. Also included in socialized benefit charges are benefits paid to former employees of bankrupt or closed firms.

Unemployment taxes will be paid quarterly with the tax payment due determined by multiplying the employer's tax rate by all payrolls for that quarter. A report showing the wages paid to each employee and the taxes payable will be forwarded to the National Labor Office's tax collection authority. Failure to submit required taxes will result in additional interest and penalties.

Before an employer's UI tax rate can be fully based on experience-rating, it is necessary to start at a uniform tax rate and then gradually phase in the experience over time. In order to develop an adequate history of each firm to establish that firm's individual experience, the National Labor Office must collect data for a minimum of four years, before full experience-rating can begin.

The phase-in process could work as follows: every employer will pay a uniform tax rate for the first two years, e.g. 7 percent. In the third year, the employer's individual tax will be based partially (possibly one-third) on the employer's reserve account balance and based partially (possibly two-thirds) on a somewhat lower uniform tax rate. In the fourth year, the employer's individual rate will be mostly based (possibly two-thirds) on the employer's reserve account, and less on the uniform rate (possibly one-third). Beginning in the fifth year, the employer becomes fully experienced-rated and with the employer's UI tax rate no longer dependent on any uniform tax.

B. Administrative Financing

1. Administrative Trust Fund

The Administrative Fund will be maintained by the National Labor Office for purposes of collecting the administrative tax and allocating the administrative resources to Voivod and Local Labor Offices.

The administration of the program will be controlled by the National Labor Office. However, most of the services provided will be administered at the local level. It is expected that the Local Labor Offices will offer evaluation, assessment, and counseling services. Another fundamental service provided will be reemployment services including job matching and referral to

available job openings. All employers will be requested to list job openings with the Placement Service.

2. Funding Mechanism

The administrative system will be supported by a uniform employee tax of (approximately) 0.3% (three-tenths of one percent). The Administrative tax will be withheld by the employer from each employee's wages and forwarded to the National Labor Office at the same time as the employer's taxes are paid.

3. Administrative Resource Allocation

To administer the national program, twenty percent of the revenues from the Administrative tax will be allocated to the National Labor Office. Ten percent would be allocated to the Voivods and sixty percent of the administrative revenues will be distributed to the Local Labor Offices. The remaining ten percent would be held for contingency, Trust Fund Reserve, and special project purposes.

A portion of the funding for the National Labor Center should be used for research and demonstration reemployment projects. The distribution of administrative resources among Voivods and Local Labor Offices would depend primarily on two different factors: (1) local employment and unemployment levels, and (2) a guaranteed base level of services to be provided in every locality.

VI. Administration

A. Administrative Structure of the Organization

Administration of UI shall have four major parts: (1) the National Labor Office (NLO), (2) the Voivod Labor Offices (VLOs), (3) the Local Labor Offices (LLOs), and (4) Tri-partite Advisory Councils. Complete authority shall rest with the NLO which will work with the VLOs and LLOs to operate a system of UI to serve employers and members of the labor force. Tri-partite Advisory Councils shall be established at the national, voivod, and local levels to provide guidance and community contact for the labor offices.

B. Responsibilities of the Parts of the Organization

1. National Labor Office Responsibilities

The National Labor Office (NLO) shall generally oversee the administration of benefit payments and tax collections for the UI program conducted by the Voivod Labor Offices (VLOs) in cooperation with the Local Labor Offices (LLOs). Specifically,

the NLO shall be responsible for collection of employer and employee taxes, disbursement of funds collected through employer taxes to the Voivods to cover benefit payments, maintenance of individual employer records used to determine taxes, calculation of annual tax rates based on experience rating factors, encouragement of reemployment strategies and pilot or experimental evaluation projects, maintenance of centralized labor market and economic information, policy research, allocating administrative resources raised through the 0.3% employee tax and held in trust, and actual distribution of funds for administration to the Voivods. The NLO shall establish standards for administration of benefit payments and tax collections and shall monitor compliance with those standards. The NLO shall also work with the Social Insurance Tax Authority (ZUS), the Identity Records Agency (PESCL), and Disability Programs when collaboration holds the promise of improving the efficiency of the UI system or the reemployment prospects of UI beneficiaries.

2. Voivod Labor Office Responsibilities

Voivod Labor Offices (VLOs) shall be responsible for coordination of activities with the NLO and supervision and cooperation with Local Labor Offices (LLOs) in the voivod. The VLO shall also collect information for management, labor market information, and evaluation of program effects. The VLO shall be responsible to make regular required reports to the NLO on activities conducted through the LLOs in the voivod. The VLO shall work with LLOs in the voivod to encourage reemployment, effective job matching and referral to appropriate active labor market programs including: retraining, intervention works, public works, and self employment. The VLOs shall also cooperate with the Social Insurance Tax Authority (ZUS), the Identity Records Agency (PESCL), and Disability Programs when requested to by the NLO.

3. Local Labor Office Responsibilities

Local Labor Offices (LLOs) are the primary service providers who shall determine separation and continuing eligibility for benefits among UI claimants, make monthly UI benefit payments, and support efforts of beneficiaries to become reemployed. The LLOs shall work directly with employers and individuals to support an efficient Placement Service, provide counseling, assessment and referral to other programs including retraining, public works, intervention works, self employment. The LLOs shall prepare and submit required reports to the VLO and NLO, and work with other agencies such as the Social Insurance Tax Authority (ZUS), the Identity Records Agency (PESCL), and Disability Programs when requested to by the NLO or VLO. The LLOs are encouraged to make policy recommendations to the voivods

to improve the efficiency of the UI program and reemployment of claimants.

4. Tri-partite Advisory Councils

Tri-partite Advisory Councils comprised of equal representation from labor, business, and government shall be established at the national, voivod, and local levels to provide guidance and community contact for the labor offices. The advisory councils shall attempt to ensure that all objectives of UI are met, and that the best interests of all persons served by the system are served. Furthermore, the advisory councils shall help coordinate the activities of the UI system with other labor market programs including placement, retraining, intervention works, public works, and self employment; and with private employers and community based organizations.

C. Evaluation and Planning

Within the NLO there shall be a special division existing for the special purpose of doing ongoing research on efficiency and effects of the UI system and its coordination with other labor market and social programs. In all cases research shall be conducted with the aim of providing useful and practical information for improving the UI system.

Part Four

An Analysis of Proposed Rules for An Unemployment Insurance System for Poland

I. Objectives of Unemployment Insurance (UI)

- A. Temporary partial wage replacement during periods of involuntary unemployment to reduce hardship.

UI payments should be temporary--this is one distinction from social welfare payments--and paid to persons with significant labor force attachment as a matter of right. Payments should not be means tested. UI payments should be adequate to provide for the most basic needs of recipients, but should only partially replace lost wages so as to maintain an incentive for return to work. UI should be paid only during periods when unemployment is unavoidable. Positive efforts to gain reemployment should be required during the period of compensation.

- B. Minimize the duration of unemployment by promoting rapid and suitable reemployment.

The UI system should work in cooperation with the Placement Service, the employer community, and active labor market programs to minimize the duration of unemployment by promoting reemployment. Mechanisms to promote reemployment are included in the continuing eligibility provisions of UI.

- C. Limit economic downturns by supporting consumer purchasing power in the community and nation.

The UI system acts as an important built in stabilizer for the local and national economies. During periods of economic downturn, because the UI system partially replaces lost earnings, it acts to maintain the aggregate level of spending. During periods of economic expansion, as people return to work less will be paid out in benefits and spending from UI benefits will decline thereby partially preventing inflationary pressures.

- D. Encourage stabilization of employment within enterprises.

By properly structuring the tax system used to fund benefit payments, incentives can be provided for employers to stabilize employment levels within enterprises. In simple terms, over time tax rates for contributions from employers who lay off a smaller percentage of their workers will be lower than otherwise. Setting tax rates in this way is referred to as "experience rating."

II. Coverage

Coverage refers to jobs. People may gain eligibility for benefits by working in covered jobs. Universal coverage is the goal, but given the political and economic situation in Poland it may be possible to achieve this goal only gradually. The exclusions listed are minimal. A more detailed listing of work relationships covered may be developed within Poland based on culture and traditions. Detailed questions arise for example concerning: small farm employers, church employers, schools, hospitals, government jobs, domestic servants, railroad and maritime employees.

The system should not affect activity of family enterprises where income support problems are resolved internally, nor should it inhibit the establishment, operation, and growth of new or small enterprises or self employment.

III. Eligibility for Benefits

A. Monetary Eligibility: Required Work Experience

UI benefits should be payable only to persons with demonstrated attachment to the work force. Payments to new entrants, either recent students or others, may be made from social welfare funds, but there can be no actuarial basis for a solvent UI system which makes such payments. The formula in the proposed rules for a UI system is stated in terms of quarterly earnings, if it is more convenient for the information system the rules could be stated in terms of months.

B. Non-monetary Eligibility: Separation Issues

For unemployment to be an insurable risk it must be unavoidable, and not the result of personal actions. Without clear separation restrictions the well known insurance problems of "moral hazard" exist. However, regardless of the reasons for separation after some period of active job search, as verified by the Placement Service, continued unemployment cannot be judged to be caused by personal actions and should become compensable with payments being financed by a socialized rather than an experience rated tax. That is such benefit payments shall not be "charged back to a previous employer."

C. Initial Eligibility Determination

This describes the administrative process for initially establishing UI benefit eligibility at the local level.

D. Continuing Eligibility Criteria

These conditions promote the reemployment aspect of UI. The rules recognize that reemployment must be in an appropriate job. The definition of appropriate job is broadened as the duration of unemployment lengthens.

There is another issue associated with continuing eligibility which is not covered in the proposed rules--that is fraud. Fraud involves situations where claimants receive benefits after misrepresenting facts, or employers under-pay UI taxes after misrepresenting facts. More information about the legal system is needed to make recommendations for dealing with fraud in the UI law. Clearly the law should call for repayment of excess benefit payments, or payment of delinquent taxes, but the question of financial and criminal penalties is open.

E. Employer and Claimant Appeals of Eligibility Decisions

This describes a process where initial eligibility decisions may be appealed by either claimants or previous employers. Employers may be more likely to appeal decisions in a system with experience rating of taxes. The three level system described should be adequate to resolve disputes. Making the decision of the third level final will keep UI issues out of the courts. However, this proposal may not be compatible with individual rights governed by Polish constitutional law, in which case the final avenue of appeal would involve the judicial system.

IV. Benefits

A. Monthly Benefit Amount

The formula for the monthly benefit amount (MBA) is designed to replace approximately half of lost wages between a specified maximum and minimum. In Poland there is a national average wage reported by the Central Statistical Agency (GUS) and computed on the basis of six major industries. Now in Poland there is a uniform MBA set at 28% of this national average. It may be the case that a flexible MBA will need to be introduced gradually.

To get the system started operating on a self financing basis it is reasonable that benefit levels be set rather low. As the system develops it may be possible to raise the fraction of lost earnings replaced by the monthly benefit (replacement rate), but it should be noted the impacts on UI taxes which will result. Although the formula recommended is based on quarterly wage information, an alternate system could be developed using the concept of the highest monthly wage.

B. Mandatory Waiting Period

A waiting period is proposed as a means to cost share with claimants. It should have the added effect of reducing entry by claimants who could easily become reemployed quickly. The proposal includes payment of what amounts to one month of benefits for rapid reemployment. It should be treated as something of a "bonus" by the claimant and a socialized cost by the system.

C. Duration of Benefits

The maximum duration of benefits is set at the current maximum with an added limitation based on base period earnings that ensures only partial wage replacement.

D. Benefits for Partial Unemployment

A partial benefits system is proposed to provide an incentive for beneficiaries to work at least part time. This proposal is part of the answer to "black labor." Under this system claimants may work at low wages which if reported could contribute to future benefit eligibility, and at the same time receive compensation.

Not mentioned in the proposed rules for a UI law is provisions for "short time compensation" or "work sharing." These provisions, which are popular in Germany but not in the United States, involve using the UI system to make payments to workers who work in a firm where a substantial hours reduction for a significant number of workers has been instituted in an effort to avoid layoffs. If this is a desired feature of a UI law in Poland provisions may be added.

V. Financing

The proposed system for financing benefits includes experience rating because of the belief that experience rating UI taxes will lead to employer involvement in the system which will result in a more efficiently operating system. Experience-rating gives the individual employer direct control over their own unemployment costs by limiting the degree of subsidization of other employer's unemployment benefit costs. Simply put, the employer is responsible for their own unemployment benefit costs and not the costs of other employers.

Taxes for benefits will be collected from employers using a reserve ratio experience rating method. The draft law does not state it specifically but given that 40% of benefits are now paid for with a 3% tax on total wages, a system with rates which range from 1 to 9 percent, plus a 1 percent socialized component may be

proposed. A 0.3% tax paid by workers to finance administration is proposed. This division of uses of the two tax revenue sources makes the users of the service also the payers and creates good incentives. Employers will seek to avoid lay offs and benefit charges. Workers will be less likely to abuse use of administrative services, and will expect a high level of performance from office staff when given service.

To complete the system of experience rating a formula or schedule must be developed to set tax rates based on employer reserve accounts which will yield sufficient tax. An example of a formula to determine the experience rated part of the UI tax rate for employer i, which is to be multiplied by total annual payroll of employer i to determine experience rated taxes, is:

$$t_i = \frac{r * ((s * p_i) - b_i)}{p_i}$$

where:

t_i is the UI tax rate applicable in a give year for employer i,

r is the fraction of the deficit in the employer reserve account which is repaid each year, the same parameter is applied to all employers with UI covered jobs,

s is the fraction of the annual payroll which employers must keep in their UI employer reserve account, the same parameter is applied to all employers with UI covered jobs,

p_i is the annual payroll of employer i,

b_i is the UI reserve account balance for employer i.

The larger r is the quicker employers recover their target UI employer reserve account balance after benefit charges, and vice versa. With r equal to 0.5 (or fifty percent) half of a deficit would be repaid in each year, this would partly avoid the type of procyclical affect (exaggerating swings in business cycles) which results under a system financed by a flat UI tax. The value of s should be set to yield a UI trust fund balance which would serve as a reasonable shield against future benefit charges. If the monthly benefit amount replaces half of lost earnings, a high level of unemployment is 10 percent, and the objective is to keep one year of benefits on reserve then s should be set at 0.05 (or five percent).

Complete experience rating can operate best if no limits on the range of experience rated UI tax rates is imposed. However practical considerations suggest a maximum no higher than the social insurance tax rate.

Socialized benefit charges include all benefits paid to claimants who are disqualified for separation reasons but later requalify--as stated in Section III.B of the proposed rules. Also included in socialized benefit charges are benefits paid to former employees of bankrupt or closed firms. Usually a socialized tax of 1 percent will cover these costs, however, a examination of records would be useful before the socialized rate is set.

The total UI tax rate for a covered employer would therefore be the sum of the experience rated part which is determined by a formula plus the flat socialized part.

Money collected by these taxes should be held in trust and invested very conservatively. The usual investment is government debt bonds. While a one year trust fund reserve is suggested above, the popular standard of trust fund adequacy is an amount large enough to pay benefits as a fraction of total payrolls experienced in a recent severe recession for at least 18 months. This is criterion is frequently referred to as having a high cost multiple of 1.5, since 18 months is 1.5 years. Of course removing this much financial capital from the private sector may in itself have a depressing effect on investment, so that a one year or even 9 month criterion may be adequate.

An alternative system would be a uniform or flat tax rate paid by all employers on their total payrolls. The flat tax might be revised each July based on claims experience and employer payrolls in the previous calendar year. A flat tax system can operate with a very small trust fund reserve. The real advantage of a flat tax system is simplicity and low administrative cost of operation--no individual employer accounts are needed. The disadvantages are that the system tends to exaggerate business cycles rather than stabilize them as does an experience rating system where benefit payments are recovered from separating employers over several years. Another disadvantage of the flat rate system is that employers become detached from the system since they lose their ability to control UI tax costs by their personnel decisions.

A third type of financing system which includes elements of both experience rating and a flat tax is also possible. Since there are usually similar patterns of hiring and layoffs within given industry groups, for example construction, it may be possible after some study to form industry groups and apply the same flat tax to all firms in the same group, with tax rates varying across different industry groups. Some preliminary data

on employment, unemployment, and wages by industry groups has been received, however, a consistent breakdown into comparable industry groups for these three concepts is needed to make a reasonable proposal for experience rating of UI taxes by industry group.

VI. Administration

The administrative structure with NLO, VLO, LLO, and tri-partite councils is presumed to remain largely the same as described in Chapter 2 (articles 3 through 10) of the 1991 Employment Law for Poland. Indeed much from those articles could be added to what is in the proposed rules for a UI system. A new component for evaluation and planning is proposed.

Part Five

Alternative UI Benefit Financing Schemes

I. Financing Background

A prime aim of the Polish Ministry of Labor and Social Policy in developing a UI system is to establish a financing mechanism independent of other labor and social programs. This part of the report on establishing new rules for a UI program reviews alternative financing plans.

In a market economy the level of unemployment fluctuates from year to year depending on business cycles. Therefore, to operate an independent financing system for UI benefits a trust fund must be established. Ideally, the balance in the trust fund would accumulate during business expansion, and be drawn down during times of rising unemployment. The UI system would tend toward solvency over the business cycle.

Currently a 3% tax is levied on total payrolls to fund employment programs. The tax is paid by employers. As seen in Table 1, taxes collected by this mechanism amount to only about 44% of all benefits currently paid out in recent years. Benefit payments have averaged about 7% of total payrolls in recent years. Clearly, a self financing UI system requires a level of contribution higher than 3% of gross payrolls.

Increasing payroll taxes is not an easy matter in Poland. The social insurance contribution is already an onerous 45%. In actuality, this tax is not always paid now because of the financial difficulties faced by employers. Furthermore, there is a progressive income tax system with a minimum rate of 20%.

There is a widespread problem in Poland of "black market employment." In the United States this type of employment is said to be part of "the underground economy." Many people in Poland, including UI beneficiaries, have jobs on which they are paid cash under-the-table. While this phenomenon is probably more due to the 45% social insurance tax than the 3% employment tax, the Poles are interested in a UI law which recognizes this and attempts to deal with it.

Experience rating of UI taxes might encourage employers to increase their reporting of wages. Experience rating also presents a means of raising the average UI tax rate while offering each employer the possibility of lowering their own tax bill by reducing layoffs.

In the following, a variety of systems financing benefits are reviewed. The overview of financing systems presented below is followed by a series of simple simulations for a variety of

different employer types. All of the examples and simulations assume that taxes for benefits will be paid by employers, and that taxes may range between 0 and 10%.

The alternatives described in this section concern the financing of benefits. The proposal made in Part Four, Section V.B.2 concerning financing of administration still stands. A 0.3% tax paid by workers to finance administration was proposed in Part Four, Section V.B. 2.

This division of tax revenue sources makes the users of the service also the payers, and creates good incentives. Because of experience rated taxes on employers to finance benefits, employers will seek to avoid layoffs and benefit charges. And because workers pay for the administration of UI benefits they will be less likely to abuse the use of administrative services, and will demand a high level of performance from office staff when given service.

II. Possible Methods of Financing Benefits

In the following subsection A, we discuss approaches to UI taxation based on the principle of experience rating. By this principle, an employer's UI tax rate rises with increased benefit payments to past employees. Subsection B presents examples of UI tax systems which do not base an employer's tax on prior UI benefit payments to former employees.

The reserve ratio is a summary measure of all past benefit and tax payments, the benefit ratio on the other hand has a memory limited to 3, 4, or 5 years depending on the specification. So, that for employers at the maximum tax rate the benefit ratio method may "forget" some past benefit charges while the reserve ratio method never will forget.

The reserve ratio method can easily incorporate a target reserve or "precautionary" balance concept, which allows benefit charges to be repaid over the course of the business cycle. In principle, reserves can be built up when unemployment is low and drawn down when unemployment is high. The benefit ratio system, on the other hand only smooths the recovery of benefit charges by basing the tax rate on the average of charges over the past few years.

A. Experience Rated Financing Systems

There are two basic types of experience rated UI tax systems: reserve ratio and benefit ratio. The reserve ratio type requires that a complete history of tax payments and benefit charges be maintained for each employer. The benefit ratio type uses only recent benefit and payroll records. In this section we

first describe reserve ratio systems, we then review benefit ratio systems. The examples presented in this section assume that the maximum UI tax rate is set at 10%. Given that recent benefit payouts have approximated 7% of total payrolls, the range of 0% to 10% may provide a reasonable first approximation to a self financing system. Particularly, if recommendations in this proposal to eliminate welfare aspects and separate financing from active labor programs are adopted.

For all of the experience rating cases, an employer is required to have a minimum of two calendar years of experience with employees. The new employer tax rate, n , applies in the first two years. The new employer tax rate should be set to cover expected costs, but should not be so high as to hinder the formation of new legitimate businesses. In the third and subsequent years of operating a business with employees, one of the experience rating formulae may be applied.

1. Reserve Ratio UI Tax Systems

Reserve ratio UI tax systems involve the following elements:

t_i is the UI tax rate applicable in a given year for employer i ,

b_i is the UI employer reserve account balance for employer i .

p_i is the annual payroll of employer i ,

n is the new employer tax rate,

s is the fraction of the annual payroll which employers must keep in their UI employer reserve account, the same parameter is applied to all employers with UI covered jobs,

r is the fraction of the deficit in the employer reserve account which is repaid each year, the same parameter is applied to all employers with UI covered jobs, and

z is the tax covering socialized UI benefits which are paid to former employees of bankrupt firms or to claimants who re-qualify after serving a denial period for a UI disqualification based on a separation issue.

a. A simple reserve ratio tax system:

The simple reserve ratio for an experience rated UI tax is:

$$(b_i/p_i)$$

where, the reserve account balance for employer i , b_i , is the accumulated excess of UI tax contributions beyond benefit charges, and p_i is the employers total payroll in the computation period, which may be the calendar year preceding the tax year. To accommodate delays in reporting, the computation period may be the twelve month period ending two calendar quarters before the tax year. Unless there is a target level of trust fund reserves, reserve ratio taxes will only be payable when the reserve ratio is negative.

In a simple reserve ratio system an employer's UI tax rate can be determined by a formula like:

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if  $b_i \geq 0$ ;                 $t_i = 0$ 

if  $b_i < 0$ ;                 $t_i = \min\{0.10, (-b_i/p_i)\}$ 
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By this formula the tax rate would range between 0 and 10% depending on the employer's reserve ratio.

b. A reserve ratio tax system with a trust fund balance target for employers

Adding a trust fund balance target to a simple reserve ratio system involves including another term in the numerator of the reserve ratio. In this case the target trust fund balance, $s \cdot p_i$, is added to the tax formula.

The formula for a reserve ratio UI tax system with a trust fund balance target for employers is:

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if  $s \cdot p_i \leq b_i$ ;                 $t_i = 0$ 

if  $s \cdot p_i > b_i$ ;                 $t_i = \min\{0.10, [(s \cdot p_i) - b_i] / p_i\}$ 
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Again, by this formula the tax would range between 0% and 10% depending on the employers reserve ratio.

c. A reserve ratio tax system with a trust fund balance target and a reduced rate of repayment

Since the level of unemployment varies cyclically, it is possible that the UI system can act as a built in stabilizer. One dimension of this is that benefit payments increase as unemployment rises. An experience rating tax system can be refined to reinforce the counter cyclical nature of UI by slowing the repayment of benefit charges by employers, so as not to raise employment costs at the very time business finds it hardest to keep operating. Naturally, in an environment with very high

levels of price inflation, repaying benefit charges even a year later softens the tax burden on an employer as repayment is made with cheaper dollars. Nonetheless, this section reviews a mechanism for spreading the tax burden over time even in an environment of price stability.

Starting with a reserve ratio system with a target trust fund balance, an additional scalar multiplier, r , is added. The formula for a reserve ratio UI tax system with a trust fund balance target and a reduced rate of repayment is:

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if  $s \cdot p_i \leq b_i$ ;            $t_i = 0$ 

if  $s \cdot p_i > b_i$ ;        $t_i = \min\{0.10, r \cdot ((s \cdot p_i) - b_i) / p_i\}$ 
```

This factor will diminish the rate of repayment when $0 < r < 1$. A similar formulation with, $1 < r$, could be used to adjust repayments upward in the presence of inflation.

d. A reserve ratio tax system with a trust fund balance target, a reduced rate of repayment, and a socialized component

The basic principle of experience rating is that UI benefit payments are charged back to previous employers. However, it must be recognized that in some cases benefit payments may not be reasonably assigned to previous employers. The two most important instances are when an employer goes out of business and when a claimant becomes eligible for benefits after being initially denied due to the circumstances of separation from a particular employer. After a certain period of time, unemployment is no longer the fault of the prior employer, but rather is due to general conditions in the labor market.

Starting with a reserve ratio system with a target trust fund balance and an additional scalar multiplier to reduce the rate of repayment, we may add a factor, z , to recover socialized costs of UI benefit payments. The resulting UI tax formula is:

$$t_i = \max\{z, \min\{0.10, z + r \cdot ((s \cdot p_i) - b_i) / p_i\}\}$$

In usual practice, UI tax contributions for the socialized component of the tax do not contribute to an employer's reserve account. In the formula provided the maximum tax rate has not been increased, the range of possible rates is now 1% to 10%. There is nine percentage points of variation possible due to experience rating.

e. Simulations of reserve ratio UI tax systems

Table 2 presents simulations of UI taxes for an experience rated reserve ratio UI tax. The simulations assume a

hypothetical employer in Poland who has an annual payroll of 750,000 zł. For example, 100 employees earning an average of 625 zł. per month over the course of a calendar year. The table contains 10 blocks of 4 rows. Each separate block assumes a different initial UI reserve balance for the employer.

Within each block, the first row assumes no reserve target, full repayment immediately (up to the ceiling on the tax rate), and a zero socialized tax component. The second row assumes a positive reserve target, full repayment in the first year (up to the ceiling on the tax rate), and a zero socialized tax component. The third row assumes a positive reserve target, one-half repayment in the first year (up to the ceiling on the tax rate), and a zero socialized tax component. The fourth row assumes a positive reserve target, one-half repayment in the first year (up to the ceiling on the tax rate), and a 1% socialized tax component.

Among the ten blocks, the first two assume positive levels of reserves at 15,000 zł. and 2,250. The third block assumes zero initial reserves. These are followed by 7 increasingly negative reserve levels -17,500, -50,000, -95,000, -115,000, -125,000, -135,000, and -195,000. These reserve balance levels were selected to illustrate the responsiveness of the tax system in the 0 to 10% range.

The first block assumes a positive reserve balance of 15,000 zł. which is 2% of the assumed annual payroll of 750,000. With a reserve target of 0 or 5% no taxes are paid unless a socialized tax is imposed. The 1% reserve target means there is a surplus of 7,500 on reserve. A 1% socialized tax will generate 7,500 in contributions over the year, this is true for all simulations presented in Table 2.

In the second block in Table 2, a positive reserve balance of 2,250 or 0.3% of the annual payroll is assumed. With a zero reserve target, no tax is payable. With a 5% target, there is a 5,250 reserve deficiency. Reserves will be funded at the target level in one year with a tax rate of 0.7% which will yield 5,250 in contributions. A tax rate of 0.35% will replenish half of the reserve deficiency in one year. The socialized tax of 1% is additive on top of the reserve ratio tax.

The third block a zero reserve balance is assumed. With a zero reserve target, no tax is payable. With a 5% target, there is a 37,500 reserve deficiency. Reserves will be funded at the target level in one year with a tax rate of 5% which will yield 37,500 in contributions. A tax rate of 2.5% will replenish half of the target reserve deficiency in one year. The socialized tax of 1% is additive on top of the reserve ratio tax.

A reserve balance of -17,500 is assumed in the fourth block of Table 2. A tax of 2.33% would bring the employer's reserves to a zero balance in one year. If the reserve target is 5%, then a tax of 7.33% would bring reserves to the fully funded 37,500 level in one year. Half the reserve deficiency would be made up in one year with a tax of 3.67% on total payroll. As in all the simulations on Table 2, the socialized tax of 1% is additive on top of the reserve ratio tax.

In a simple reserve ratio system, a reserve balance of -95,000 as given in the fifth block results in a maximum tax rate of 10%, with the reserve deficiency only partially made up in the first year. The 10% tax is levied regardless of whether or not there is a target reserve balance. If the aim is to recover only half the deficiency in the first year a tax of 8.83% will be levied. An extra percentage point is added if a socialized tax is imposed.

In the final block on Table 2, a -195,000 reserve balance is assumed. This amounts to over 25% of annual payroll. Regardless of the variations in the reserve ratio tax formula a 10% UI tax is imposed under the system illustrated in Table 2. Given that the maximum rate is 10%, with a reserve target of 1% and a minimum payback speed of 50% per year, the maximum rate will always be charged when the deficit exceeds 20% of payrolls.

The workings of the reserve ratio system of UI taxation is further illustrated by tax rate simulations presented in Tables 3-6 and Figures 1-4. In each of the tables and figures it is assumed that an employer has an annual payroll of 750,000. The simulations examine how alternative systems work as the employers UI reserve balance ranges from -25% of payroll to 10% of payroll. The four sets of simulations correspond to each of the four rows in the separate blocks of Table 2.

The first simulation presented in Table 3 and Figure 1 assumes no reserve target, full repayment immediately (up to the 10% ceiling on the tax rate), and a zero socialized tax component. From the graph and figure the simple workings of this system can be easily seen. When the trust fund balance is -10% of payroll or less the UI tax rate is 10%. When the trust fund balance is above zero, the UI tax rate is zero. When the trust fund balance is between -10% and zero, the UI tax rate is the negative of the trust fund balance. Problems with this system are that in equilibrium reserves are zero--there is no reserve to provide for uncertain events, also because benefit payments are recovered too quickly it may de-stabilize the aggregate economy, finally it ignores the fact that some benefit charges may not be attributed to a particular employer and some business go out of business.

The second simulation presented in Table 4 and Figure 2 assumes a positive reserve target, full repayment in the first year (up to the 10% ceiling on the tax rate), and a zero socialized tax component. By adding a positive reserve target of 5% of payrolls, employers with reserves less than or equal to -5% will pay the maximum rate of 10%, and employers must have a reserve at least equal to 5% before a zero tax applies. Between the minimum and the maximum tax rates (0, 10%) the tax is the target minus the reserve ratio. For example: $.05 - .04 = .01$, and $.05 - (-.03) = .08$.

The third simulation presented in Table 5 and Figure 3 assumes a positive reserve target, one-half repayment in the first year (up to the 10% ceiling on the tax rate), and a zero socialized tax component. By cutting the speed of repayment in half, employers with reserves less than or equal to -15% will pay the maximum rate of 10%, and because of the reserve target employers must have a reserve at least equal to 5% before a zero tax applies. Between the minimum and the maximum tax rates (0, 10%) the tax is one-half the target minus the reserve ratio. For example: $.5*(.05 - .04) = .005$, and $.5*(.05 - (-.03)) = .04$.

The fourth simulation presented in Table 6 and Figure 4 assumes a positive reserve target, one-half repayment in the first year (up to the 10% ceiling on the tax rate), and a 1% socialized tax component. By adding the socialized tax, employers with reserves less than or equal to -13% of payroll will pay the maximum rate. With the socialized tax, employers with reserves at or above the 5% of payrolls target will pay the minimum tax which equals the socialized tax of 1% on payrolls.

The parameters selected for the above simulations were chosen because of the financing demands required by the system of unemployment compensation currently operating in Poland. If benefit schedules or eligibility rules are modified, the levels of taxes applied must be revised accordingly.

2. Benefit Ratio UI Tax Systems

Benefit ratio UI tax systems involve the following elements:

t_i is the UI tax rate applicable in a given year for employer i ,
 u_t is UI benefits paid to an employer's former employees in year t .

U_T is UI benefits paid to an employer's former employees in years $T-1$, $T-2$, and $T-3$, i.e. $U_T = u_{T-1} + u_{T-2} + u_{T-3}$,

p_t is the employer's total payroll in year t ,

P_T is an employer's total annual payroll in years T-1, T-2, and T-3, i.e. $U_T = u_{T-1} + u_{T-2} + u_{T-3}$,

n is the new employer tax rate,

z is the tax covering socialized UI benefits which are paid to former employees of bankrupt firms or to claimants who re-qualify after serving a denial period for a UI disqualification based on a separation issue.

a. A simple benefit ratio tax system:

The simple benefit ratio formula for an experience rated UI tax is:

$$t_i = U_T/P_T,$$

this formula will operate between the maximum and minimum rates which are set and will be positive when ever U_T is positive.

This formula assumes that the benefit ratio is based on three years of employer experience with payrolls and benefit payments. Each year may be a calendar year or some other convenient 12 month period. In the United States it is popular to designate the 12 month period ending June 30 of a particular year to be the "computation period" for the subsequent tax year. This provides sufficient time for gathering data to set tax rates.

Besides three year benefit ratios, four and five year benefit ratios are also used in the United States. The more years involved in the benefit ratio the slower the payback. For example, a three year benefit ratio implicitly has a "speed of payback" parameter, like the reserve ratio parameter, r, discussed above equivalent to $r = 0.33$. A four year benefit ratio has an implicit payback speed of 0.25, and a five year benefit ratio has an implicit speed of 0.20.

The main distinction between the operation of the reserve ratio and the benefit ratio formulas is that the reserve ratio never "forgets" benefit charges while the reserve ratio does. For employers with high benefit charges, who are paying the maximum rate, some benefit charges may pass out of the reserve ratio before they are recovered within 3, 4, or 5 years. Thus the benefit ratio, is a more imperfect approach to experience rating UI taxes.

b. A benefit ratio tax system with a socialized component:

A socialized component can be easily added to the simple benefit ratio formula for an experience rated UI tax:

$$t_i = U_T/P_T + z$$

As in the simple case described above this formula will operate between the maximum and minimum rates. It will have a minimum value of z . The tax rate will exceed z whenever U_T is positive.

c. Simulations of benefit ratio UI tax systems

Tables 7 through 10 present simulations of UI taxes for an experience rated benefit ratio UI tax. The simulations assume a hypothetical employer in Poland who has an annual payroll of 750,000 zł. For example, 100 employees earning an average of 625 zł. per month over the course of a calendar year. It is assumed that the minimum tax rate is 0 and maximum tax rate is 10%. The simulations also assume that the benefit ratio formula involve three years of payroll and benefit charges.

Each of the Tables 7 to 10 contains 6 blocks of 5 rows. Within each of the tables:

The first block assumes benefit charges only in the first of the three years.

The second block assumes benefit charges only in the second of the three years.

The third block assumes benefit charges only in the third of the three years.

The fourth block assumes benefit charges only in the first and second of the three years.

The fifth block assumes benefit charges only in the second and third of the three years.

The sixth block assumes benefit charges in all three years the three years.

To most completely expose the workings of the benefit ratio system, each of the annual benefit charges examined on a particular table are identical. The level of benefit charges considered increases steadily from Table 7 through 10, with the levels being: 3%, 5%, 10%, and 15% of total payroll respectively. This range is sufficient to illustrate the working of a benefit ratio system with minimum and maximum rates of 0 and 10%.

Also, within each block the first three rows apply to the three years in the benefit ratio, the fourth row computes the tax rate and tax payment without a socialized tax, and the fifth row computes a tax payment including a socialized tax of 1%.

Considering the first three blocks in Table 7, we see that a one time benefit charge equal to 3% of payrolls which appears first in year 1 of the benefit ratio, then in year 2, then in year 3, results in a 1% annual tax rate, in the absence of a socialized tax. All benefit payments are repaid in three years since the tax rate is always below the maximum of 10%. Complete payback also occurs if two consecutive years of benefits are charged at a rate of 3% of payroll. This can be seen by adding the tax payments in the first, the fourth, the fifth, and the third blocks in Table 7 which amount to 45,000--the sum of two years benefit charges at 22,500. The last block in the table shows that if 3% of payrolls is charged in benefits each year, a steady state is reached where benefit charges equal tax payments in each year.

Simulations in Table 8 work in a way exactly similar to those in Table 7 with benefit charges at the level of 5%. In Table 9 with benefit charges at the level of 10% of payrolls, all benefit charges are recovered by the tax system provided that benefit charges at the 10% of payroll level occur no more often than in two successive years. When benefit charges are 10% of payrolls every year, the system will just recover benefit charges only if there is no socialized tax.

With benefit charges at 15% of payrolls, one year of benefit charges results in a tax rate of 5% ignoring the socialized tax, and two years of charges at 15% of payrolls results in a tax of 10%--the maximum. This can recover all benefit charges only if there is no socialized tax. The final block in Table 10 clearly illustrates the case where, due to a maximum on tax rates, some benefit charges are not recovered from past employers. When this happens employers with high benefit charges are subsidized by employers paying the socialized tax, or by contributions from governmental general revenues.

Earlier it was mentioned that the UI tax should include a component to recover payments to two categories of beneficiaries, we now have a third category due to tax ceilings in reserve ratio systems. The three instances are: (1) former employees of businesses which no longer exist, (2) beneficiaries who qualify after serving a disqualification due to a separation issue, and (3) benefits which cannot be effectively charged to employers due to ceilings on tax rates.

B. Non-experience Rated UI Financing Systems

Non-experience rated or fully socialized systems for financing UI are reviewed in this section by considering the particulars of financing in three countries: Hungary, Germany, and Canada. While all three countries apply tax rates to employers and workers the notable difference concerns what earnings are taxable. In the above simulations for Poland, it was assumed that total payroll was taxable. This is in fact the case in Hungary. However, Germany and Canada, as well as the United States and other countries have an upper limit on earnings by an individual which are subject to taxation for UI.

Hungary, like Poland, only recently instituted a real UI system. Poland, like Hungary, can be expected to continue to have all earnings taxable. This is a preferred situation for at least two reasons. First, placing a ceiling on earnings which are taxable results in discrimination against hiring low wage workers. For example with a ceiling on the taxable wage base at 10,000 per year, the UI taxes on two workers earning 10,000 would be the same as on one worker earning 20,000. Furthermore, with experience rating, the responsiveness of the experience rating schedule is diminished with an earnings ceiling.

To describe the UI tax systems in Hungary, Germany, and Canada the following symbols are used:

t_e is the UI tax rate applicable in a given year for an employer,

t_w is the UI tax rate applicable in a given year for a worker,

B_{t-1} is the total of UI benefits paid in the previous year to all claimants in the country

P_{tot} is an average employer's total payroll in year $t-1$,

P_{tax} is an average employer's taxable total payroll in year $t-1$,

1. The Hungarian Model

In Hungary $P_{tot} = P_{tax}$ since all wages are taxable for unemployment insurance. In practice, the UI tax rate is set and revised by discretion of the national Parliament. In principle the tax is set to cover to cover benefit costs. Currently the rate paid by workers is 2.0% of all wages, and the rate paid by employers is 7.0% of all wages. In recent years the revenue collected by the UI tax amounted to $0.09 * P_{tot}$ which was sufficient to pay all UI benefits plus the cost of some active measures. The Hungarian system, at the present time, does not operate on a trust fund basis.

2. The German Model

In Germany there is a limit on taxable wages set at DM 46,667 in the west, and DM 21,589 in the east in 1994. The same tax rate is paid by employers and workers so that each group pays half of UI benefit costs. The tax rate is set to cover the previous year's benefit charges, in 1994 the rate was set at 3.15% of taxable payrolls. In symbolic terms:

$$t_e = t_w, \text{ and}$$

$$2*t_e = 2*t_w = (t_e + t_w) = B_{t-1}/P_{tax}.$$

3. The Canadian Model

In Canada there is a limit on taxable wages set at \$C 27,990 in 1994. Each year Human Resources Development Canada must set employer and worker UI tax premiums to generate revenues sufficient to meet current program costs, reduce any past surplus or deficit, and anticipate future economic conditions. From time to time the Minister of Finance may fix the premium rate. In any event, the employer UI tax rate is 1.4 times the worker UI tax rate.

In equilibrium the UI tax rate would be such that:

$$t_e = 1.4*t_w, \text{ and}$$

$$2.4*t_w = B_{t-1}/P_{tax}.$$

The UI tax system in Canada results in workers paying 42% of the cost of UI benefits while employers pay 52% of the cost.

Table 1. UI Financing in Poland, 1990-94

Year	Benefit Payments	Total Payroll	UI Tax Rate	UI Tax Revenue	Benefits/ Payroll	Revenue/ Benefits
1990	1891.0	54520	0.02	1090.4	0.035	0.577
1991	11115.0	207150	0.02	4143.0	0.054	0.373
1992	19697.0	310405	0.02	6208.1	0.063	0.315
1993	26771.0	394680	0.03	11840.4	0.068	0.442
1994	37246.5	542960	0.03	16288.8	0.069	0.437

Table 2. Reserve Ratio UI Tax Simulations, Reserve Target 0 or 5%

Total Payroll	Reserve Balance	Reserve Target	Repayment Speed	Social Tax	Tax Rate	Reserve Deficit	Tax Payment
750000	15000	0	1	0	0.0000	-15000	0
750000	15000	0.05	1	0	0.0300	22500	22500
750000	15000	0.05	0.5	0	0.0150	22500	11250
750000	15000	0.05	0.5	0.01	0.0250	22500	18750
750000	2250	0	1	0	0.0000	-2250	0
750000	2250	0.05	1	0	0.0470	35250	35250
750000	2250	0.05	0.5	0	0.0235	35250	17625
750000	2250	0.05	0.5	0.01	0.0335	35250	25125
750000	0	0	1	0	0.0000	0	0
750000	0	0.05	1	0	0.0500	37500	37500
750000	0	0.05	0.5	0	0.0250	37500	18750
750000	0	0.05	0.5	0.01	0.0350	37500	26250
750000	-17500	0	1	0	0.0233	17500	17500
750000	-17500	0.05	1	0	0.0733	55000	55000
750000	-17500	0.05	0.5	0	0.0367	55000	27500
750000	-17500	0.05	0.5	0.01	0.0467	55000	35000
750000	-50000	0	1	0	0.0667	50000	50000
750000	-50000	0.05	1	0	0.1000	87500	75000
750000	-50000	0.05	0.5	0	0.0583	87500	43750
750000	-50000	0.05	0.5	0.01	0.0683	87500	51250
750000	-95000	0	1	0	0.1000	95000	75000
750000	-95000	0.05	1	0	0.1000	132500	75000
750000	-95000	0.05	0.5	0	0.0883	132500	66250
750000	-95000	0.05	0.5	0.01	0.0983	132500	73750
750000	-115000	0	1	0	0.1000	115000	75000
750000	-115000	0.05	1	0	0.1000	152500	75000
750000	-115000	0.05	0.5	0	0.1000	152500	75000
750000	-115000	0.05	0.5	0.01	0.1000	152500	75000
750000	-125000	0	1	0	0.1000	125000	75000
750000	-125000	0.05	1	0	0.1000	162500	75000
750000	-125000	0.05	0.5	0	0.1000	162500	75000
750000	-125000	0.05	0.5	0.01	0.1000	162500	75000
750000	-135000	0	1	0	0.1000	135000	75000
750000	-135000	0.05	1	0	0.1000	172500	75000
750000	-135000	0.05	0.5	0	0.1000	172500	75000
750000	-135000	0.05	0.5	0.01	0.1000	172500	75000
750000	-195000	0	1	0	0.1000	195000	75000
750000	-195000	0.05	1	0	0.1000	232500	75000
750000	-195000	0.05	0.5	0	0.1000	232500	75000
750000	-195000	0.05	0.5	0.01	0.1000	232500	75000

Table 3. Reserve Ratio UI Tax Simulation
Target = 0, Speed = 1, Social Tax = 0

Total Payroll	Reserve Balance	Reserve Ratio	Reserve Target	Repayment Speed	Social Tax	Tax Rate	Tax Payment
750000	-187500	-0.25	0	1	0	0.1000	75000
750000	-182250	-0.24	0	1	0	0.1000	75000
750000	-177000	-0.24	0	1	0	0.1000	75000
750000	-171750	-0.23	0	1	0	0.1000	75000
750000	-166500	-0.22	0	1	0	0.1000	75000
750000	-161250	-0.22	0	1	0	0.1000	75000
750000	-156000	-0.21	0	1	0	0.1000	75000
750000	-150750	-0.20	0	1	0	0.1000	75000
750000	-145500	-0.19	0	1	0	0.1000	75000
750000	-140250	-0.19	0	1	0	0.1000	75000
750000	-135000	-0.18	0	1	0	0.1000	75000
750000	-129750	-0.17	0	1	0	0.1000	75000
750000	-124500	-0.17	0	1	0	0.1000	75000
750000	-119250	-0.16	0	1	0	0.1000	75000
750000	-114000	-0.15	0	1	0	0.1000	75000
750000	-108750	-0.15	0	1	0	0.1000	75000
750000	-103500	-0.14	0	1	0	0.1000	75000
750000	-98250	-0.13	0	1	0	0.1000	75000
750000	-93000	-0.12	0	1	0	0.1000	75000
750000	-87750	-0.12	0	1	0	0.1000	75000
750000	-82500	-0.11	0	1	0	0.1000	75000
750000	-77250	-0.10	0	1	0	0.1000	75000
750000	-72000	-0.10	0	1	0	0.0960	72000
750000	-66750	-0.09	0	1	0	0.0890	66750
750000	-61500	-0.08	0	1	0	0.0820	61500
750000	-56250	-0.08	0	1	0	0.0750	56250
750000	-51000	-0.07	0	1	0	0.0680	51000
750000	-45750	-0.06	0	1	0	0.0610	45750
750000	-40500	-0.05	0	1	0	0.0540	40500
750000	-35250	-0.05	0	1	0	0.0470	35250
750000	-30000	-0.04	0	1	0	0.0400	30000
750000	-24750	-0.03	0	1	0	0.0330	24750
750000	-19500	-0.03	0	1	0	0.0260	19500
750000	-14250	-0.02	0	1	0	0.0190	14250
750000	-9000	-0.01	0	1	0	0.0120	9000
750000	-3750	-0.01	0	1	0	0.0050	3750
750000	1500	0.00	0	1	0	0.0000	0
750000	6750	0.01	0	1	0	0.0000	0
750000	12000	0.02	0	1	0	0.0000	0
750000	17250	0.02	0	1	0	0.0000	0
750000	22500	0.03	0	1	0	0.0000	0
750000	27750	0.04	0	1	0	0.0000	0
750000	33000	0.04	0	1	0	0.0000	0
750000	38250	0.05	0	1	0	0.0000	0
750000	43500	0.06	0	1	0	0.0000	0
750000	48750	0.07	0	1	0	0.0000	0
750000	54000	0.07	0	1	0	0.0000	0
750000	59250	0.08	0	1	0	0.0000	0
750000	64500	0.09	0	1	0	0.0000	0
750000	69750	0.09	0	1	0	0.0000	0
750000	75000	0.10	0	1	0	0.0000	0

Figure 1

Table 4. Reserve Ratio UI Tax Simulation
Target = .5, Speed = 1, Social Tax = 0

Total Payroll	Reserve Balance	Reserve Ratio	Reserve Target	Repayment Speed	Social Tax	Tax Rate	Tax Payment
750000	-187500	-0.25	0.05	1	0	0.1000	75000
750000	-182250	-0.24	0.05	1	0	0.1000	75000
750000	-177000	-0.24	0.05	1	0	0.1000	75000
750000	-171750	-0.23	0.05	1	0	0.1000	75000
750000	-166500	-0.22	0.05	1	0	0.1000	75000
750000	-161250	-0.22	0.05	1	0	0.1000	75000
750000	-156000	-0.21	0.05	1	0	0.1000	75000
750000	-150750	-0.20	0.05	1	0	0.1000	75000
750000	-145500	-0.19	0.05	1	0	0.1000	75000
750000	-140250	-0.19	0.05	1	0	0.1000	75000
750000	-135000	-0.18	0.05	1	0	0.1000	75000
750000	-129750	-0.17	0.05	1	0	0.1000	75000
750000	-124500	-0.17	0.05	1	0	0.1000	75000
750000	-119250	-0.16	0.05	1	0	0.1000	75000
750000	-114000	-0.15	0.05	1	0	0.1000	75000
750000	-108750	-0.15	0.05	1	0	0.1000	75000
750000	-103500	-0.14	0.05	1	0	0.1000	75000
750000	-98250	-0.13	0.05	1	0	0.1000	75000
750000	-93000	-0.12	0.05	1	0	0.1000	75000
750000	-87750	-0.12	0.05	1	0	0.1000	75000
750000	-82500	-0.11	0.05	1	0	0.1000	75000
750000	-77250	-0.10	0.05	1	0	0.1000	75000
750000	-72000	-0.10	0.05	1	0	0.1000	75000
750000	-66750	-0.09	0.05	1	0	0.1000	75000
750000	-61500	-0.08	0.05	1	0	0.1000	75000
750000	-56250	-0.08	0.05	1	0	0.1000	75000
750000	-51000	-0.07	0.05	1	0	0.1000	75000
750000	-45750	-0.06	0.05	1	0	0.1000	75000
750000	-40500	-0.05	0.05	1	0	0.1000	75000
750000	-35250	-0.05	0.05	1	0	0.0970	72750
750000	-30000	-0.04	0.05	1	0	0.0900	67500
750000	-24750	-0.03	0.05	1	0	0.0830	62250
750000	-19500	-0.03	0.05	1	0	0.0760	57000
750000	-14250	-0.02	0.05	1	0	0.0690	51750
750000	-9000	-0.01	0.05	1	0	0.0620	46500
750000	-3750	-0.01	0.05	1	0	0.0550	41250
750000	1500	0.00	0.05	1	0	0.0480	36000
750000	6750	0.01	0.05	1	0	0.0410	30750
750000	12000	0.02	0.05	1	0	0.0340	25500
750000	17250	0.02	0.05	1	0	0.0270	20250
750000	22500	0.03	0.05	1	0	0.0200	15000
750000	27750	0.04	0.05	1	0	0.0130	9750
750000	33000	0.04	0.05	1	0	0.0060	4500
750000	38250	0.05	0.05	1	0	0.0000	0
750000	43500	0.06	0.05	1	0	0.0000	0
750000	48750	0.07	0.05	1	0	0.0000	0
750000	54000	0.07	0.05	1	0	0.0000	0
750000	59250	0.08	0.05	1	0	0.0000	0
750000	64500	0.09	0.05	1	0	0.0000	0
750000	69750	0.09	0.05	1	0	0.0000	0
750000	75000	0.10	0.05	1	0	0.0000	0

Figure 2

Table 5. Reserve Ratio UI Tax Simulation
Target = .5, Speed = .5, Social Tax = 0

Total Payroll	Reserve Balance	Reserve Ratio	Reserve Target	Repayment Speed	Social Tax	Tax Rate	Tax Payment
750000	-187500	-0.25	0.05	0.5	0	0.1000	75000
750000	-182250	-0.24	0.05	0.5	0	0.1000	75000
750000	-177000	-0.24	0.05	0.5	0	0.1000	75000
750000	-171750	-0.23	0.05	0.5	0	0.1000	75000
750000	-166500	-0.22	0.05	0.5	0	0.1000	75000
750000	-161250	-0.22	0.05	0.5	0	0.1000	75000
750000	-156000	-0.21	0.05	0.5	0	0.1000	75000
750000	-150750	-0.20	0.05	0.5	0	0.1000	75000
750000	-145500	-0.19	0.05	0.5	0	0.1000	75000
750000	-140250	-0.19	0.05	0.5	0	0.1000	75000
750000	-135000	-0.18	0.05	0.5	0	0.1000	75000
750000	-129750	-0.17	0.05	0.5	0	0.1000	75000
750000	-124500	-0.17	0.05	0.5	0	0.1000	75000
750000	-119250	-0.16	0.05	0.5	0	0.1000	75000
750000	-114000	-0.15	0.05	0.5	0	0.1000	75000
750000	-108750	-0.15	0.05	0.5	0	0.0975	73125
750000	-103500	-0.14	0.05	0.5	0	0.0940	70500
750000	-98250	-0.13	0.05	0.5	0	0.0905	67875
750000	-93000	-0.12	0.05	0.5	0	0.0870	65250
750000	-87750	-0.12	0.05	0.5	0	0.0835	62625
750000	-82500	-0.11	0.05	0.5	0	0.0800	60000
750000	-77250	-0.10	0.05	0.5	0	0.0765	57375
750000	-72000	-0.10	0.05	0.5	0	0.0730	54750
750000	-66750	-0.09	0.05	0.5	0	0.0695	52125
750000	-61500	-0.08	0.05	0.5	0	0.0660	49500
750000	-56250	-0.08	0.05	0.5	0	0.0625	46875
750000	-51000	-0.07	0.05	0.5	0	0.0590	44250
750000	-45750	-0.06	0.05	0.5	0	0.0555	41625
750000	-40500	-0.05	0.05	0.5	0	0.0520	39000
750000	-35250	-0.05	0.05	0.5	0	0.0485	36375
750000	-30000	-0.04	0.05	0.5	0	0.0450	33750
750000	-24750	-0.03	0.05	0.5	0	0.0415	31125
750000	-19500	-0.03	0.05	0.5	0	0.0380	28500
750000	-14250	-0.02	0.05	0.5	0	0.0345	25875
750000	-9000	-0.01	0.05	0.5	0	0.0310	23250
750000	-3750	-0.01	0.05	0.5	0	0.0275	20625
750000	1500	0.00	0.05	0.5	0	0.0240	18000
750000	6750	0.01	0.05	0.5	0	0.0205	15375
750000	12000	0.02	0.05	0.5	0	0.0170	12750
750000	17250	0.02	0.05	0.5	0	0.0135	10125
750000	22500	0.03	0.05	0.5	0	0.0100	7500
750000	27750	0.04	0.05	0.5	0	0.0065	4875
750000	33000	0.04	0.05	0.5	0	0.0030	2250
750000	38250	0.05	0.05	0.5	0	0.0000	0
750000	43500	0.06	0.05	0.5	0	0.0000	0
750000	48750	0.07	0.05	0.5	0	0.0000	0
750000	54000	0.07	0.05	0.5	0	0.0000	0
750000	59250	0.08	0.05	0.5	0	0.0000	0
750000	64500	0.09	0.05	0.5	0	0.0000	0
750000	69750	0.09	0.05	0.5	0	0.0000	0
750000	75000	0.10	0.05	0.5	0	0.0000	0

Figure 3

Table 6. Reserve Ratio UI Tax Simulation
Target = .5, Speed = .5, Social Tax = .01

Total Payroll	Reserve Balance	Reserve Ratio	Reserve Target	Repayment Speed	Social Tax	Tax Rate	Tax Payment
750000	-187500	-0.25	0.05	0.5	0.01	0.1000	75000
750000	-182250	-0.24	0.05	0.5	0.01	0.1000	75000
750000	-177000	-0.24	0.05	0.5	0.01	0.1000	75000
750000	-171750	-0.23	0.05	0.5	0.01	0.1000	75000
750000	-166500	-0.22	0.05	0.5	0.01	0.1000	75000
750000	-161250	-0.22	0.05	0.5	0.01	0.1000	75000
750000	-156000	-0.21	0.05	0.5	0.01	0.1000	75000
750000	-150750	-0.20	0.05	0.5	0.01	0.1000	75000
750000	-145500	-0.19	0.05	0.5	0.01	0.1000	75000
750000	-140250	-0.19	0.05	0.5	0.01	0.1000	75000
750000	-135000	-0.18	0.05	0.5	0.01	0.1000	75000
750000	-129750	-0.17	0.05	0.5	0.01	0.1000	75000
750000	-124500	-0.17	0.05	0.5	0.01	0.1000	75000
750000	-119250	-0.16	0.05	0.5	0.01	0.1000	75000
750000	-114000	-0.15	0.05	0.5	0.01	0.1000	75000
750000	-108750	-0.15	0.05	0.5	0.01	0.1000	75000
750000	-103500	-0.14	0.05	0.5	0.01	0.1000	75000
750000	-98250	-0.13	0.05	0.5	0.01	0.1000	75000
750000	-93000	-0.12	0.05	0.5	0.01	0.0970	72750
750000	-87750	-0.12	0.05	0.5	0.01	0.0935	70125
750000	-82500	-0.11	0.05	0.5	0.01	0.0900	67500
750000	-77250	-0.10	0.05	0.5	0.01	0.0865	64875
750000	-72000	-0.10	0.05	0.5	0.01	0.0830	62250
750000	-66750	-0.09	0.05	0.5	0.01	0.0795	59625
750000	-61500	-0.08	0.05	0.5	0.01	0.0760	57000
750000	-56250	-0.08	0.05	0.5	0.01	0.0725	54375
750000	-51000	-0.07	0.05	0.5	0.01	0.0690	51750
750000	-45750	-0.06	0.05	0.5	0.01	0.0655	49125
750000	-40500	-0.05	0.05	0.5	0.01	0.0620	46500
750000	-35250	-0.05	0.05	0.5	0.01	0.0585	43875
750000	-30000	-0.04	0.05	0.5	0.01	0.0550	41250
750000	-24750	-0.03	0.05	0.5	0.01	0.0515	38625
750000	-19500	-0.03	0.05	0.5	0.01	0.0480	36000
750000	-14250	-0.02	0.05	0.5	0.01	0.0445	33375
750000	-9000	-0.01	0.05	0.5	0.01	0.0410	30750
750000	-3750	-0.01	0.05	0.5	0.01	0.0375	28125
750000	1500	0.00	0.05	0.5	0.01	0.0340	25500
750000	6750	0.01	0.05	0.5	0.01	0.0305	22875
750000	12000	0.02	0.05	0.5	0.01	0.0270	20250
750000	17250	0.02	0.05	0.5	0.01	0.0235	17625
750000	22500	0.03	0.05	0.5	0.01	0.0200	15000
750000	27750	0.04	0.05	0.5	0.01	0.0165	12375
750000	33000	0.04	0.05	0.5	0.01	0.0130	9750
750000	38250	0.05	0.05	0.5	0.01	0.0100	7500
750000	43500	0.06	0.05	0.5	0.01	0.0100	7500
750000	48750	0.07	0.05	0.5	0.01	0.0100	7500
750000	54000	0.07	0.05	0.5	0.01	0.0100	7500
750000	59250	0.08	0.05	0.5	0.01	0.0100	7500
750000	64500	0.09	0.05	0.5	0.01	0.0100	7500
750000	69750	0.09	0.05	0.5	0.01	0.0100	7500
750000	75000	0.10	0.05	0.5	0.01	0.0100	7500

Figure 4

Reserve Ratio UI Tax Schedule

Target = .5, Speed = .5, Soc. Tax = .01

Table 7. Benefit Ratio UI Tax Simulations,
Benefit Charges 3% of Total Payroll

Year	Total Payroll	Benefit Charges	Social Tax	Tax Rate	Tax Payment
1	750000	22500	0		
2	750000	0	0		
3	750000	0	0		
Sum	2250000	22500	0	0.0100	7500
Sum	2250000	22500	0.01	0.0200	15000
1	750000	0	0		
2	750000	22500	0		
3	750000	0	0		
Sum	2250000	22500	0	0.0100	7500
Sum	2250000	22500	0.01	0.0200	15000
1	750000	0	0		
2	750000	0	0		
3	750000	22500	0		
Sum	2250000	22500	0	0.0100	7500
Sum	2250000	22500	0.01	0.0200	15000
1	750000	22500	0		
2	750000	22500	0		
3	750000	0	0		
Sum	2250000	45000	0	0.0200	15000
Sum	2250000	45000	0.01	0.0300	22500
1	750000	0	0		
2	750000	22500	0		
3	750000	22500	0		
Sum	2250000	45000	0	0.0200	15000
Sum	2250000	45000	0.01	0.0300	22500
1	750000	22500	0		
2	750000	22500	0		
3	750000	22500	0		
Sum	2250000	67500	0	0.0300	22500
Sum	2250000	67500	0.01	0.0400	30000

Table 8. Benefit Ratio UI Tax Simulations,
Benefit Charges 5% of Total Payroll

Year	Total Payroll	Benefit Charges	Social Tax	Tax Rate	Tax Payment
1	750000	37500	0		
2	750000	0	0		
3	750000	0	0		
Sum	2250000	37500	0	0.0167	12500
Sum	2250000	37500	0.01	0.0267	20000
1	750000	0	0		
2	750000	37500	0		
3	750000	0	0		
Sum	2250000	37500	0	0.0167	12500
Sum	2250000	37500	0.01	0.0267	20000
1	750000	0	0		
2	750000	0	0		
3	750000	37500	0		
Sum	2250000	37500	0	0.0167	12500
Sum	2250000	37500	0.01	0.0267	20000
1	750000	37500	0		
2	750000	37500	0		
3	750000	0	0		
Sum	2250000	75000	0	0.0333	25000
Sum	2250000	75000	0.01	0.0433	32500
1	750000	0	0		
2	750000	37500	0		
3	750000	37500	0		
Sum	2250000	75000	0	0.0333	25000
Sum	2250000	75000	0.01	0.0433	32500
1	750000	37500	0		
2	750000	37500	0		
3	750000	37500	0		
Sum	2250000	112500	0	0.0500	37500
Sum	2250000	112500	0.01	0.0600	45000

Table 9. Benefit Ratio UI Tax Simulations,
Benefit Charges 10% of Total Payroll

Year	Total Payroll	Benefit Charges	Social Tax	Tax Rate	Tax Payment
1	750000	75000	0		
2	750000	0	0		
3	750000	0	0		
Sum	2250000	75000	0	0.0333	25000
Sum	2250000	75000	0.01	0.0433	32500
1	750000	0	0		
2	750000	75000	0		
3	750000	0	0		
Sum	2250000	75000	0	0.0333	25000
Sum	2250000	75000	0.01	0.0433	32500
1	750000	0	0		
2	750000	0	0		
3	750000	75000	0		
Sum	2250000	75000	0	0.0333	25000
Sum	2250000	75000	0.01	0.0433	32500
1	750000	75000	0		
2	750000	75000	0		
3	750000	0	0		
Sum	2250000	150000	0	0.0667	50000
Sum	2250000	150000	0.01	0.0767	57500
1	750000	0	0		
2	750000	75000	0		
3	750000	75000	0		
Sum	2250000	150000	0	0.0667	50000
Sum	2250000	150000	0.01	0.0767	57500
1	750000	75000	0		
2	750000	75000	0		
3	750000	75000	0		
Sum	2250000	225000	0	0.1000	75000
Sum	2250000	225000	0.01	0.1000	75000

Table 10. Benefit Ratio UI Tax Simulations,
Benefit Charges 15% of Total Payroll

Year	Total Payroll	Benefit Charges	Social Tax	Tax Rate	Tax Payment
1	750000	112500	0		
2	750000	0	0		
3	750000	0	0		
Sum	2250000	112500	0	0.0500	37500
Sum	2250000	112500	0.01	0.0600	45000
1	750000	0	0		
2	750000	112500	0		
3	750000	0	0		
Sum	2250000	112500	0	0.0500	37500
Sum	2250000	112500	0.01	0.0600	45000
1	750000	0	0		
2	750000	0	0		
3	750000	112500	0		
Sum	2250000	112500	0	0.0500	37500
Sum	2250000	112500	0.01	0.0600	45000
1	750000	112500	0		
2	750000	112500	0		
3	750000	0	0		
Sum	2250000	225000	0	0.1000	75000
Sum	2250000	225000	0.01	0.1000	75000
1	750000	0	0		
2	750000	112500	0		
3	750000	112500	0		
Sum	2250000	225000	0	0.1000	75000
Sum	2250000	225000	0.01	0.1000	75000
1	750000	112500	0		
2	750000	112500	0		
3	750000	112500	0		
Sum	2250000	337500	0	0.1000	75000
Sum	2250000	337500	0.01	0.1000	75000

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