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**QUARTERLY REPORT FOR THE FIRST QUARTER OF THE THIRD YEAR**

**UNIVERSITY OF DELAWARE - BULGARIA  
MANAGEMENT TRAINING AND ECONOMICS EDUCATION PROGRAM  
GRANT NO. EUR-0029-G-00-1044-00**

**Period of Coverage: July 1 - September 30, 1993**

**October 30, 1993**

**Quarterly Report for the First Quarter of the Third Year  
University of Delaware - Bulgaria Management Training and Economics  
Education Program  
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**I. Executive Overview**

A. In the first quarter of the third year of the project, the University of Delaware (UD) and the New Bulgarian University (NBU) offered 11 courses and 3 seminars in management, economics, and English language learning and teaching in Sofia. The English Language Program also offered two courses at Bulgarian ministries and three seminars with other partners. Half of the courses in both the economics and management programs were taught by UD trained Bulgarian instructors. To support the students and faculty in NBU-UD business programs, we established a 2000 volume business and economics library on the NBU campus. In this quarter, we focussed on sustainability by implementing the second stage of our agreements with NBU and the Institute of Economics (IEC), Bulgarian Academy of Science. In this stage, faculty and staff from each institution work together to develop or to refine curricula and to identify faculty to teach or to co-teach fall and winter courses. The Bulgarian National Bank published a monograph, The Bulgarian Banking System, written by Dr. Jeffrey Miller, in-country director of the economics program in year two. Miller also contributed Credit Ceilings and Monetary Policy in Bulgaria. We welcomed Dr. Stefan Petranov, UD-trained economist to his new position as in-country director of the economics program. Mike Rucolo joined the in-country team to coordinate the management program. We also co-sponsored educational programs with the Sofia Central Library and observed a steady flow of new visitors in the audio-visual room of our Resource Center. With less project funding from A.I.D. being available in Year 3, we intensified our pursuit of additional sources of funding for various components of our project in danger of being discontinued.

B. The following is the final data (numbers and percentages of the total) showing student types for all courses in the third year, first quarter program:

<u>STUDENT TYPE</u>	<u>SOFIA</u>
Faculty	30 / 17.44%
Students	36 / 20.93%
Government Officials	46 / 26.74%
Business Community	40 / 23.25%
Unemployed	20 / 11.62%
Totals:	172 / 99.98%

**II. National Focus Initiatives**

A. In coordination with the office of U.S. Commercial Attache John Fogarasi and Peace Corps Plovdiv Multilink Center coordinator Christine Donolo, University of Delaware-Bulgaria Coalition (UDBC) staff set-up and staffed an information booth in the U.S. Pavilion of the Fall '93 Plovdiv Fair. The experience gained in the Fall '92 Fair permitted us to advise newcomers to the fair. UDBC Management Program Coordinator Mike Ruccolo and RC office staff Nikolova and Dimitrova attended the fair opening ceremony on September 27, staffed the booth, met with other U.S. Assistance Program representatives, distributed UDBC programs promotional materials, and trained a Plovdiv Fair student attendant to staff the UDBC booth during the week of activities.

B. In this quarter, a management certificate program to provide training to 13 Bulgarian Mayors and Deputy Mayors in the Delaware Public Administration Institute of the College of Urban Affairs and Public Policy, University of Delaware was approved by AID Bulgaria and Partners for International Education and Training (PIET). The University of South Carolina and Volunteers in Overseas Cooperative Assistance (VOCA) training programs were also accepted, and Stan Shumway was designated U.S. coordinator of the three participant training programs. UDBC and VOCA staff in Bulgaria worked closely together to arrange pre-departure activities. Preparations for the mayor's visit to Delaware included:

a. UDBC staff in Bulgaria and UD staff in the U.S. worked closely with Sofia AID Project Director Brad Fujimoto, VOCA Regional Representative Hertzolina Pinkas, VOCA office coordinator Krassimir Kiriakov, and PIET Sofia Coordinator Pepa Nikolova on the pre and post departure logistics and implementation details of the mayors' training trip to the U.S..

b. ELP Director Jeanette Miller undertook the pre-departure orientation of the group at the Sofia Central Library. The orientation covered practical issues such as shopping, eating in restaurants, tipping, using the phone, and prices of goods. Also included were some cultural comparisons including approaches to time and face-to-face versus telephone-based business contacts. Following the orientation, the mayors took part in a question/answer session with VOCA representatives Pinkas and Kiriakov, UD representatives Abadzhiev and Miller, and PIET Bulgaria coordinator Nikolova.

c. Abadzhiev provided USIS Cultural Officer Bill Cook with a press release on the trip.

d. Abadzhiev and RC Coordinator Alex Markov contracted caterers for the pre-departure orientation and the post-return cocktail reception and press-conference at the U.S. Cultural Center. UDBC will also provide a van from the airport and book hotel reservations for the mayor's return.

e. Abadzhiev was chosen to accompany the mayors on the trip as interpreter and group coordinator. His participation in the program will strengthen his linguistic skills in the fields of interpreting or teaching public administration and his management skills in coordinating participant training programs.

C. The ELP began production of the Business English Program to be broadcast by the NBU Radio University in 1994.

D. The University of Delaware continues to cooperate with Bulgarian institutions and agencies capable of having immediate as well as sustainable national impacts. The national focus projects include joint programs with: the Ministry of Labor and Social Welfare; the Ministry of Trade; the Ministry of Finance; the Institute of Economics, Bulgarian Academy of Sciences; the Ministry of Industry; and the Agency for Privatization. These projects will continue throughout Year Three.

### **III. Current Political Situation**

A. Bulgaria moves no closer to early elections this quarter though the Berov government, backed by a Parliamentary majority of the Bulgarian Socialist Party and the Turkish minority party, is increasingly under attack from the Union of Democratic Forces Coalition and the independent Trade Unions for its failure to live up to promises it made to speed up the privatization process. The government is also cited for unjustified personnel changes, allegedly favoring narrow party interests in response to pressure from emerging power groups in the financial sector. An element of uncertainty permeates the entire Berov administration. This mood affects all governmental and educational institutions, in which administrators are cautiously straddling political fences and wary of any commitments.

B. Fortunately, our partners at the New Bulgarian University are undeterred by the prevailing political climate. Professor Bogdan Bogdanov, Rector of NBU, and Julian Popov, the Executive Director have reiterated their commitment to educational reform and Western methods of instruction in written agreements developed in a series of meetings with UDBC coordinators and program directors.

### **IV. Efforts to Ensure Sustainability**

A. An agreement for educational cooperation was finalized and signed between UD and NBU. See Appendix H.

B. In-Country Coordinator Sandra McCollum and Associate In-Country Coordinator Ross Abadzhiev conducted a series of meetings with Professor Bogdan Bogdanov, Rector of NBU and Julian Popov, NBU Executive Director to broaden the areas of cooperation between

the two universities and to strengthen the partnership links, particularly in regard to sustainability of joint programs.

C. UD coordinators worked closely with NBU Information Center Director Shelley Cohen and her staff in developing plans for sharing educational resources and promoting joint training programs.

D. Closer links and interaction with NBU with the goal of sustainability of the joint project was achieved in the following areas:

1. In September UDBC opened a Library Reading Room housing 2000 volumes of business and economics texts on the NBU Sofia campus. Marketing and financial management texts predominate. Abadzhiev and Theodorova set-up the library in mid-August on made-to-order shelves.

2. A NBU professional librarian, Nadya Terzieva, is currently administering the reading room part time. She will enter the data in a computerized catalog which will allow the easy tracking and maintenance of library resources when the planned merger of all NBU libraries now scattered in several locations is implemented.

3. Shared use of the computer resources at the NBU Information Center has been agreed upon. UD has donated business-oriented software including the TSP econometrics software package. UDBC Professor Petranov is currently teaching a course in Econometrics using NBU computers on site.

4. UDBC coordinators, Management Program Coordinator Ruccolo, and Economics Program Coordinator Petranov are pursuing a busy schedule of working meetings and consultations on curricula matters with NBU program heads and faculty.

5. A most notable success in the area of curricula integration has been the inclusion of the Small Business Development cycle of five courses into the regular NBU B.A. program as a "specialty" - an applied elective group of courses. This has been achieved through extensive planning with NBU Business Program Director Radoslav Tsonchev who is also a student in the UD Advanced Management Program.

6. A NBU M.A. degree in business and economics is currently being developed. Ruccolo has had several consultations with Svetlana Alexandrova, one of the key figures on the curriculum planning committee.

7. Radoslav Tsonchev and Svetlana Alexandrova have been identified to team teach with UDBC professors some of the courses in the UDBC advanced management program.

#### **E. Coordination with other US Government-funded agencies:**

1. US Foreign Commercial Service (USFCS) of the Department of Commerce: Project Director Stanley Shumway, In-Country Coordinator Sandra McCollum, and John Fogarasi finalized planning for the publication of (1) a personnel and project information directory to guide US investors in locating information about the Bulgarian market and (2) a guide to market research conducted in Bulgaria. UD staff assisted in entering information collected from surveys jointly distributed by UD and the USFCS.

2. United States Information Service (USIS): The UD English language program and USIS shared the expenses of bringing from the US Dr. Angela Labarca, an American teacher trainer and professor of linguistics, to train Bulgarian English teachers in June and July.

3. Open Society: McCollum, Ivanov, and Ivanova met with Open Society editors to continue planning a cooperative effort to translate and publish a series of core economics textbooks. USIA obtained the copyright for the next book in the series, Mishkin's Money and Banking. The Ivanovi's will translate this text.

4. US Department of the Treasury: The ELP conducted a semi-intensive business English course for seventeen Ministry of Finance personnel involved in a US Dept of Treasury program. McCollum, Shumway, Jeanette Miller, and Mike Rucolo held several meetings with the US resident tax advisor, James Wooster, to assist him in developing other training programs for Bulgarian tax administrators.

5. US Peace Corps: McCollum met with Christine Donnolo from the Plovdiv Peace Corps office to review submissions to be included in a bilingual guide to writing a business plan. The Directors of the ELP, Miller and Schumacher, participated in the orientation program of the new group of 29 Peace Corps volunteers.

6. KPMG International Banking Institute: Vanya and Ivan Ivanov met with administrators of the International Bank Training Institute to schedule 1993-94 programs. The United Bulgarian Bank requested training for its staff in all branches.

#### **F. Internal Evaluation Report:**

1. In this quarter, we continued our policy of administering the Participant Evaluation Form for each course we offered and reporting answers to selected questions in the management, economics, and English language training sections of this report. Revisions we are making as a result of feedback we receive from these evaluations are also reported in these sections.

2. For seminars, we have designed a modified version of the participant evaluation form, which we administer in each seminar we offer.

3. **Post-training Survey:** This quarter we completed the first phase of a research project designed to elicit data on the long-term effects of students' participation in our training programs. The project components listed below were completed in phase one:

a. McCollum, Miller, and Schumacher wrote questions that were reviewed by the UDBC team.

b. The survey team met regularly to revise items and coordinate the various sections of the survey. See English version in Appendix F.

c. Ross Abadzhiev translated the survey into Bulgarian and made slight modifications to insure clarity in the Bulgarian version.

d. Vanya Theodorova and Vanya Ivanova prepared databases for extracting mailing label data. This time-consuming job entailed deleting duplicate entries and incomplete addresses from more than three thousand records.

e. Theodorova, Nikolova, Markov, and Tsompov copied, collated, addressed, and mailed 1,500 surveys in lots of 100. Each envelope contained a self-addressed, stamped return envelope.

f. In the second quarter of year three, we will report the response to our post-training survey.

#### V. **Management Training Program**

A. **Overview:** The First Quarter 1993 saw a continuation of the Certificate in Advanced Management Training Program. Although students in Bulgaria traditionally take extended vacations during the summer, the program was able to offer three courses, Finance I (two sessions), Economics I, and Economics II. Also during this quarter, Michael Ruccolo was added as in-country coordinator of the Management Program.

#### B. **Implementation of the Management Program Goals for the First Quarter of the Third Year**

1. **Goal #1 - Offer two courses in Economics as part of the Advanced Management Certificate Program.** Two courses were offered, see Appendix A.

2. **Goal #2 - Implement plans to initiate the Small Business Certificate Program.** Plans were finalized and the program is set to begin in the First Quarter of Year Three. See paragraph IIIIE, part 1a below.

3. **Goal #3 - Coordinate further activity in Pazardzhik.** Because of limited availability of faculty due to funding constraints, it was not possible to pursue this goal during the First Quarter. See paragraph IIIIE, part 1b below.

4. **Goal #4 - Recruit and select additional students for the Advanced Management Certificate Program.** Several new students applied and were admitted to the program.

5. **Goal #5 - Continue to work on developing and offering courses for the "Industrial Energy Efficiency Project."** Given the vacation schedules of prospective participants, no courses were held this quarter. Subject to funding, courses may be offered next quarter.

6. **Goal #6 - Continue to develop plans for the third year.** Further development of the Certificate in Advanced Management program continued, as well as cooperation with the New Bulgarian University. See paragraphs IIIC and IIID below.

**C. Development of the Management Program's Relationship with the New Bulgarian University**

1. **Cooperation:** The NBU has proved itself capable of providing a stable, cooperative partner for the Management Program. During the first quarter, Ruccolo met with Bogdan Bogdanov, the Rector of NBU, who stressed his willingness to work with the UDBC as well as an appreciation of the UD presence at his school. The NBU has so far proven to be cooperative by giving UDBC priority in scheduling classrooms.

2. **Joint Curriculum Development:** NBU's business program has three specialties in which students can enroll. As a part of our partnership with NBU, the Advanced Management Program will be offering five courses that will be incorporated by NBU to form a small business management concentration. This will create added interest in NBU's business program. In September UDBC personnel gave a short presentation and informational materials to NBU undergraduates as part of its recruitment efforts for the Small Business Management Concentration. The classes themselves will begin in October. All five courses will be completed by February, and the sequence is expected to repeat in the Spring of 1994.

3. NBU's business curriculum is still undergoing development and revision. Ruccolo and Abadzhiev met with NBU undergraduate business program director Radislav Tsonchev to advise him on curriculum development. Tsonchev wants to create a two-tier

system: a two-year program that will be roughly equivalent to an associate's degree program in the U.S. and a continuation of this program that will lead to a general equivalent of a U.S. bachelor's degree. To assist him in this effort, the Advanced Management Program provided Tsonchev with materials delineating A.A. and B.S. curricula at various U.S. schools. Further discussions will be held with Tsonchev after he has had a chance to review these materials.

4. Ruccolo met twice with Svetlana Alexandrova, an assistant in the NBU MBA program. Cooperation between the programs was discussed, and Alexandrova stated that the MBA program may submit a proposal to UD to obtain faculty to teach in NBU's MBA program. At the end of September, Ruccolo met with the NBU MBA director Rouslan Penchev for further discussions.

#### **D. Efforts to ensure sustainability**

1. Ruccolo and other UDBC personnel have discussed with Radislav Tsonchev the possibility of having NBU faculty observe or assist in our classes as a way of training them to eventually teach the classes themselves. Tsonchev and other NBU officials have been amenable to this idea although there are still some hurdles, such as compensation for NBU instructors during this training period. Discussions with MBA director Penchev were positive, and it appears that he is willing to assign his MBA faculty to our Advanced Management Courses to assist in teaching and grading, with an eye toward possibly teaching the classes themselves in the future. Further discussions will be held to finalize these plans.

2. Two Bulgarians (Anastassia Miteva and Valentin Vulov) have already successfully taught in the Advanced Management Program, and in October two others (Jordan Jordanov and Hristo Mavrov) will teach in the Small Business Management Program. These initiatives provide a core of experienced Bulgarian faculty to provide training after our departure.

#### **E. Program Planning and Preparation**

##### **1. Preparation for the Second Quarter of the Third Year:**

a. The program will offer the following courses in the second quarter:

(1) Advanced Management Program:

(a) Finance II (October)

(2) Small Business Management Program:

(a) Economics for Small Business

(b) Marketing for Small Business

(c) Managing the Small Business

b. Since visiting faculty will be more readily available in the second quarter, it is expected that our outreach program will be continued.

**F. Management Course Offerings**

1. See Appendix A for the complete schedule and descriptions of the three management courses offered during this quarter.

2. All courses were offered in the evening to make them more accessible for those working during the day. Most of the students were from local businesses, governmental organizations, and academic institutions, and they brought a range of experiences and backgrounds to the classes.

3. The instructors were Michael Rucolo from the University of Delaware, and Anastassia Miteva and Valentin Vulov, both graduates of the UDBC's Advanced Economics Program.

**G. Course Evaluations:** The course participants gave high grades to both the course content and the instruction, as shown by the following responses to some key questions on the post-training questionnaires:

1. #1 - The quality of instruction was excellent.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
38.1%	38.1%	9.5%	9.5%	4.8%

2. #3 - The content of this course is relevant to my needs.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
47.6%	33.3%	19.0%	0%	0%

3. #6 - The instructors seem to be well-versed in the topic as it relates to my country.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
9.5%	42.9%	33.3%	9.5%	4.8%

4. #13 - I would recommend this course to other interested parties.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
42.9%	42.9%	9.5%	0%	4.8%

#### H. Activities Outside the Classroom

1. The Plovdiv Fair: Ruccolo and an interpreter staffed a booth for two days at the Plovdiv Fair, a semi-annual exhibition that promotes Bulgarian industry. Government officials as well as foreign companies also attended. The UDBC personnel handed out literature describing all UDBC programs as well as the CD-ROM system and the ability to provide consultations.

##### 2. Consultations:

a. Michael Ruccolo:

b. With Abadzhiev and McCollum, met with Radislav Tsonchev, Program Director of the undergraduate business program of the New Bulgarian University, to discuss curriculum development.

c. Met twice with Svetlana Alexandrova, program assistant of the MBA program at the New Bulgarian University, to discuss cooperation between the two programs, especially in the area of finding Bulgarian faculty to be trained.

d. Met with Georgi Tsvetkov, Professor at the Technical University of Sofia. The possibility of using Advanced Management Program classes as a means of training his school's faculty was discussed.

e. Gave a finance textbook and an IBM software packet to Minko Sotirov, a general Director in the Ministry of Trade, in an effort to promote better relations between the ministry and the program.

f. Met with James Wooster, U.S. Treasury Resident Tax Policy Advisor, Bulgaria, about providing training for Bulgarian Tax personnel.

g. Met with Rouslan Penchev, NBU MBA director, to discuss cooperation between the two programs, especially regarding cooperation with Bulgarian faculty.

h. Had discussions with Margaret Biallas, a consultant with a German management consulting firm working with the Ministry of Transportation, about the possibility of having

UDBC conduct a seminar on Organizational Behavior.

**I. Management Program Goals for the Second Quarter of the Third Year**

1. Offer Finance II
2. Offer Economics for Small Business
3. Offer Marketing for Small Business
4. Offer Management for Small Business
5. Coordinate further activity outside of Sofia
6. Continue to develop plans for the third year
7. Continue to work toward the sustainability of the Advanced Management Program and the Small Business Program through training and development of Bulgarian faculty.

**VI. Economics Education Program**

**A. Overview**

1. The economics program began the quarter by offering the first four courses in the second year of its Advanced Economics Program in Sofia. Three University of Delaware economics faculty, Professor Burton Abrams, Professor David Black, and Professor Evangelos Falaris offered Economics of the Financial Sector, Advanced Microeconomics A, and International Trade. Advanced Microeconomics B was offered by Stoyan Tenev. Mr. Tenev is one of the first Bulgarian economics faculty to take courses in the University of Delaware Economic Education Program. After completing the economics courses offered in Bulgaria, he was supported by the program for one year at the University of Delaware where he earned a Master of Science degree. Mr. Tenev is now enrolled in an economics Ph.D Program at the University of Maryland. His very capable performance is evidence that with time an advanced economics program can become self sustaining.

2. It is noteworthy that Dr. Lubomir Christov, chief economist of the Bulgarian National Bank, volunteered to deliver two lectures in Prof. Abrams' course on the Economics of the Financial Sector. From all accounts his participation was a success.

3. Another course, Fundamentals of a Market Economy, was offered during the quarter in Bulgarian. The instructors were Hristo Mavrov and Yordan Yordanov who both earned certificates of completion in the Advanced Economics Program. This course was provided for employees of the Ministry of Finance who were being

prepared for training in the U.S. under a U.S. Treasury program. Although the participants are now in the U.S. undergoing training in tax administration, they were engaged during July and August in intensive English Language training. By offering a basic economics course in Bulgarian, the participants were able to learn economics principles which are valuable in the study of taxation.

**B. Economics Instructional Program**

1. **Course Offerings:** See Appendix D for full schedules and descriptions of the economics courses offered in Sofia during this quarter.

2. **Course Evaluations:** A summary of responses to some of the key questions of the post-training survey results in Sofia follows:

a. #1 - The quality of instruction was excellent.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
41.9%	44.2%	4.7%	7.0%	2.3%

b. #3 - The content of this course is relevant to my needs.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
46.5%	46.5%	2.3%	2.3%	0%

c. #6 - The instructors seem to be well-versed in the topic as it relates to my country.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
39.5%	48.8%	9.3%	2.3%	0%

d. #13 - I would recommend this course to other interested parties.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
55.8%	32.6%	9.3%	0%	2.3%

3. The seminar/workshop participants also expressed widespread satisfaction with the workshop offerings, as the following selected key responses indicate:

a. #1 - The quality of instruction was excellent.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
45.5%	45.5%	9.1%	0%	0%

b. #3 - The content of the workshop is relevant to my needs.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
27.3%	63.6%	0%	9.1%	0%

c. #6 - The instructors seem to be well-versed in the topic as it relates to my country.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
81.8%	18.2%	0%	0%	0%

d. #7 - The workshop met my expectations.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
63.6%	27.3%	9.1%	0%	0%

**C. Activities Outside the Classroom**

**1. Special Seminars**

a. Professor Burton Abrams presented a paper on the Bulgarian banking system at the Bulgarian National Bank on behalf of the author of the paper, Professor Jeffery Miller.

**2. Consultations**

a. Professor Black and Sandra McCollum

(1) Met with representatives of the Institute of Economics regarding the development of a self-sustaining American style Ph.D program in economics. The possibility of cooperating with the Institute in such a project was discussed.

(2) Met with Walter Theurer USIA Sofia to pursue leads on sources of funding for the American-style Phd program proposed by the UD and the Institute of Economics.

b. Professor Abrams

(1) Met twice with Lubomir Christov, chief economist of the Bulgarian National Bank at the bank.

c. Dr. Stephan Petranov

(1) Met twice with Mr. Kostov and Mrs. Bodourova of the Ministry of Labor to discuss the organization of economics courses in microeconomics, macroeconomics and labor to be offered for Government officials in the Ministry of Labor.

D. Economics Program Goals for the Second Quarter of the Third Year

1. In the Advanced Economics Program, one course (Econometrics I) will be offered. The instructor will be one of the first students in the Economics Education Program, Dr. Stephan Petranov. Dr. Petranov was supported for one year at the University of Delaware, where he has earned a Master of Science degree. His participation as an instructor and as an administrator in the Delaware program is evidence of the growing ability of the program to sustain itself.

2. Professor Anastassia Miteva will be offering an undergraduate course (Economics of the Environment) at the Sofia Technical University where she is a full-time physics instructor. Mrs. Miteva has earned a certificate of completion in the 1992-1993 UD Advanced Economics Program.

3. Three undergraduate courses will be offered at the New Bulgarian University. The instructors (Anton Pashov, Anastassia Miteva and Hristo Mavrov) in these courses are all recipients of certificates of completion in the Advanced Economics Program.

4. Three courses tailored to the needs of the Ministry of Labor will be offered beginning in November. The three instructors in these courses are all recipients of certificates of completion in Advanced Economics Program.

5. Efforts will continue to respond to requests for economics courses with Bulgarian economists trained in the Delaware Program. The objective is to develop courses which are sustainable because they employ Bulgarian instructors.

6. Efforts will continue to work with the Institute of Economics to develop and to obtain funding for a sustainable American-style Ph.D. Program in economics.

7. The program will continue to pursue opportunities to offer economics courses, tailored to meet particular needs, to any group which shows interest in such training.

## VII. English Language Program

A. **Overview:** During the first quarter of year three the ELP concentrated its efforts in the following areas: (1) program coordination with partner institution NBU, and their language teaching facility, the Institute for Foreign Students; (2) acquiring outside sources of funding and logistical support for ELP programs from both U.S. and international assistance programs; (3) training new personnel and instituting fee structures to assure sustainable programs; (4) teacher training and teacher consultations; (5) English language support for currently enrolled students; (6) curriculum planning, testing and placement for both the Ministry and NBU English language programs.

B. The new fee structures instituted this quarter for the Ministry English Program will cover 60% of costs. By the spring semester 1994, the Ministry English Program is expected to be financially self-sustaining.

C. In response to student suggestions on the ELP Qualitative Evaluation (see appendices), ELP courses have been lengthened, from eight weeks to eleven weeks. In previous evaluations, students had frequently requested longer courses.

D. **Implementation of the English Language Program Goals for the First Quarter, Year Three:**

1. **Goal #1: Provide Business English Instruction to Participants from Bulgarian Government Ministries and Agencies.**

a. **New Ministry English Program Coordinator:** Veteran faculty member Valentina Alexandrova was appointed to coordinate the Ministry Business English program in September, 1993. Alexandrova has been with the UD program in Bulgaria since September 1991 and was chosen for the post because of her excellent teaching and strong organizational skills. The coordinator position will give Alexandrova valuable administrative experience now, and provides potential leadership for a sustained Ministry English program after the UD program ends. Alexandrova's salary for this position, and over 50% of faculty salaries, will be funded out of course fees.

b. **Ministry of Finance:** The summer months were an ideal time to conduct a semi-intensive business English course for seventeen Ministry of Finance personnel. The Ministry of Finance provided its residential training facility in the suburb of Bankya, subsidized lunches in the site restaurant, and a van and driver for daily transport of students and faculty to Sofia. Tax administrators from Sofia and throughout Bulgaria attended the course and enjoyed the rare opportunity to focus on study, in a residential setting, temporarily away from the daily routine of the regional tax offices they administer. The summer training program,

which also included five economics seminars taught by UD-trained Bulgarian economists, was a cooperative venture organized by the ELP and U.S. Department of the Treasury resident tax advisor James Wooster.

c. Six of the summer trainees then went on to the United States for a one-month seminar on tax administration, sponsored by USAID, and administered by the U.S. Internal Revenue Service. A somber note: one tax administrator was murdered in Bulgaria last year, and threats have been made on the lives of others. In the wake of this, and serious tax-evasion problems country-wide, it is hoped that U.S. assistance programs can help Bulgaria to turn this problem around.

d. Ministry of Labor:

(1) Ministry of Labor personnel constituted the single largest group of Ministry staff participating in the UD English program during the Winter/Spring 1993 courses. The Ministry reiterated its satisfaction with the program as planning got underway during the summer for Fall courses.

(2) Chief of the Training and Retraining Department Vladimirov agreed to expand the Ministry's support role to include 50% funding for each participant, classrooms, testing site, and photocopying services. On September 25, 100 Ministry personnel were tested for English language proficiency. The scores were used to place them into appropriate classes, which begin 4 October.

e. Ministry of Education

(1) Ministry of Education training coordinator Rositsa Miliankova brought 30 staff members to the UD Ministry Business English program. Most of this group are from the Higher Education division in the Ministry, which evaluates both domestic and international programs, and for which a command of English is essential.

(2) Education participants will fund their own training at 50% during the fall, and the Ministry will provide classrooms, testing sites, and photocopying support. On September 21, 30 Ministry personnel were tested for English language proficiency prior to placement in classes.

**2. Goal #2: Cooperate with the New Bulgarian University in supporting their current business English curriculum and assisting in their teacher development project.**

a. NBU Undergraduate Business Program: Management English: ELP faculty will teach Management English during the winter semester at New Bulgarian University. The course is being offered in conjunction with the UD/NBU Small Business Management

program, one of four specializations which NBU undergraduate Business students can choose from.

b. Faculty from the NBU language teaching facility, the Institute for Foreign Students, will observe Management English classes and will work closely with UD ELP faculty in monthly workshops, so that this component of the UD/NBU program can be assumed by Institute faculty in 1994.

c. USIS/NBU English Teacher Training Program: At the request of Juliana Mutti, USIS Teacher Training Program Director, the UD ELP will assist in the recruitment, screening, testing, and instruction of candidates for the new USIS/NBU training program.

d. ELP faculty and textbook library will also be available to teacher training program participants, whose program will be located near the UDBC program Resource Center, in Sofia Central Library.

e. NBU Radio University Business English Series: Throughout the summer, ELP's Miller and Schumacher met with Radio University Director Velizar Bakalov and Institute for Foreign Students English Language Director Liliana Grozdanova to plan a radio business English course for broadcast throughout Bulgaria in 1994. The course will consist of beginning, intermediate, and advanced levels, with a student package of textbooks and cassette tapes at each level. The Radio University also has "tutors" (local English language teachers) at four sites in Bulgaria who will assist in the testing, placement, and teaching of Radio University students. Also planned are site visits by the Grozdanova/ Miller/ Schumacher team, to train both tutors and students enrolled in the course. According to market research by Radio University, approximately 500 students will register for the 1000 leva (\$40.00) course. The course will be among the offerings in the growing NBU "Distance Learning Program."

**3. Goal #3. Provide English language support for participants in the Advanced Management and Economics Program.**

a. The ELP provided two sections of Management English to participants in the Advanced Management Program during the summer semester. Course components, readings, discussions and writing assignments reflected participants' current courses in the Management program, in Marketing and Managerial Economics. ELP faculty Valentina Alexandrova provided individual tutoring to two program participants whose English required additional attention.

b. During the summer, Advanced Economics Program students consulted with ELP faculty on an individual basis, working around their intensive summer schedule of four graduate-level economics courses.

c. On September 21, the course Advanced Academic English for Economists began; the course focuses on honing writing skills for publication, and participating fluently and effectively in class discussions of assigned readings. The course was offered exclusively to participants in the Advanced Economics program and to faculty at Sofia's Institute of Economics, Bulgarian Academy of Sciences.

d. **Student evaluations:** The ELP again received excellent evaluations from students who participated in courses. The following data were collected for the Koltai Group Participant Inquiry. For several questions, 100% of respondents "Agreed strongly" or "Agreed" with positive statements about their instruction.

(1) Item #1 - The quality of instruction was excellent.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
80%	20%	0%	0%	0%

(2) Item #3 - The content of this course is relevant to my needs.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
66.7%	26.7%	0%	0%	0%

(3) Item #6 - The instructors seem to be well-versed in the topic as it relates to my country.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
53.3%	33.3%	13.3%	0%	0%

(4) Item #13 - I would recommend this course to other interested parties.

<b>STRONGLY AGREE</b>	<b>AGREE</b>	<b>NO OPINION</b>	<b>DISAGREE</b>	<b>STRONGLY DISAGREE</b>
73.3%	26.7%	0%	0%	0%

4. **Goal #4. Work with Bulgarian teachers, teacher trainers, and representatives from the Peace Corps and U.S.I.S. to distribute materials, to train teachers, and to develop curricula.**

a. During the quarter, ELP's Miller and Schumacher were engaged in numerous joint projects with U.S. and international assistance programs, and Bulgarian educational institutions and teachers.

b. USIS/Ministry of Education Teacher Retraining Program: ELP's Miller and Schumacher were invited to present a one-week seminar on "Teaching Reading/Teaching Language through Literature" to participants in the USIS/Ministry of Education Teacher Retraining Program. This very successful intensive training program prepares individuals from other professions to assume English teaching responsibilities in Bulgarian secondary schools. Courses are taught as a residential program at the Ministry of Education training site in nearby Bankia. Miller and Schumacher received excellent evaluations from participants, thus laying the groundwork for future cooperative training efforts with USIS. (See Goal #2, above.)

c. USIA/UD Sponsorship of teacher-trainer Angela Labarca: From funds designated for business English teaching, USIA generously agreed to an ELP proposal to co-sponsor Dr. Angela Labarca for a summer seminar on Testing and Syllabus Design in Business English Teaching. Labarca is Director of the Georgia Tech program in Spanish for Business and Technology, and former professor of linguistics and foreign language teaching methodology at the University of Delaware. The Delaware program provided accommodation and transportation for Labarca, who was also able to teach in the USIS Teacher Retraining Program during her stay. (See "a.", above.)

d. Peace Corps:

(1) The Peace Corps in Bulgaria accepted an ELP invitation to include the UDBC Resource Center in its orientation program for new volunteers in English teaching and business consulting. On September 1, Bulgaria's 29 new Peace Corps volunteers came to the RC for an orientation to the reading room, CD ROM business library and EFL library.

(2) In September, ELP's Miller and Schumacher met with Peace Corps English Language Program Director Emil Patev, Business Program Director Suzanne Spaulding, and new Director Roger Parent. Preliminary plans were made for seminars in business English and management, to be held at Peace Corps multi-link centers outside of Sofia.

e. U.S. Treasury Department: At the request of U.S. Treasury resident tax advisor James Wooster, the UD program offered training in business English and economics to seventeen Bulgarian tax administrators. (See Goal #1, above.)

f. The Open Society/Cambridge University Press, Leo Jones: Leo Jones, popular author of the EFL text International Business English, has accepted an ELP invitation to give teacher workshops in Bulgaria when funding is available. In September, Cambridge University Press announced that it would fund Jones' air travel to the Bulgaria and the Open Society has agreed to vote on funding Jones' \$700.00 honorarium at their next executive meeting. Jones' visit is tentatively scheduled for January 1994. At that time, UDBC will provide him with accommodation, transportation, and on the ground programming.

g. USAID/Participant Training Program: Three Bulgarians nominated by ELP's Miller and Schumacher have been selected for Participant Training programs in the U.S. They are: Tsonka Vasileva, Sofia University and UD ELP faculty member; Stanka Atseva, Kodak Bulgaria; and Rositza Miliankova, Ministry of Education. All are leaders in their fields and have participated actively in the UDBC program.

h. Consultations with individual English language teachers: Interest was particularly strong during the summer months, as Bulgarian colleagues prepared syllabi and course materials for business English courses for the fall. Among the teachers who requested consultations were: Liliana Georgieva, University of National and World Economy; Liliana Grozdanova and Maria Groseva, Institute for Foreign Students; Annie Menassian, Balkan-Danish College; and Yordanka Angelova, Technical University, Sofia.

5. Goal #5). Provide database management, testing and placement for all program participants. On September 21, 22, and 25, a total of 250 candidates for English language courses were tested by the ELP for placement into the Ministry English Program and the NBU Management English courses. Administrative assistants Vanya Theodorova, Kate Nikolova, and ELP adjunct faculty worked together to collect and enter data and complete the placement process.

a. Other significant activity

(1) ELP Seminar: How to Apply to an American University: On September 8, ELP's Miller and Schumacher presented a multimedia seminar on the university application process. Participants received a package with step-by-step instructions, and watched two short videos related to U.S. university admissions procedures, testing requirements, and financial aid sources. Seventy-five people attended the two-hour presentation in the Video Sala of Sofia Municipal Library, which provided its facilities and staff as a community service.

(2) ELP Seminar: How to Write an American-style CV: On September 9, ELP's Miller and Schumacher

presented a two-hour seminar on preparing an American-style CV to an audience of 81 people. The ELP faculty first contrasted the traditional Bulgarian narrative CV with two typical CV formats used in the States. Then, in a workshop, the presenters went on to show how a narrative CV could be adapted to the U.S. format. The seminar has resulted in a steady flow of requests for individual CV consultations with ELP faculty. Both seminars were widely advertised on Radio Vitosha, which generously provided this service free of charge.

(3) Young Entrepreneurs Club: recruitment: ELP's Miller and Schumacher were invited to present the UDBC program at the September meeting of the Young Entrepreneurs Club. As a result, 20 members registered for fall English and management courses.

**b. English Language Program Goals for Year Three, Second Quarter**

(1) Provide Business English Instruction to Participants from Bulgarian Government Ministries and Agencies.

(2) Cooperate with the New Bulgarian University in supporting their current business English curriculum and assisting in their teacher development project.

(3) Provide English language support for participants in the Advanced Management and Economics Program.

(4) Work with Bulgarian teachers, teacher trainers, and representatives from the Peace Corps and U.S.I.S. to distribute materials, to train teachers, and to develop curricula.

(5) Provide database management, testing and placement for all program participants.

**VIII. Sofia Resource Center:** The Resource Center (RC) continued to play an important role in Sofia as a source of up-to-date information and teaching /learning materials in the fields of management, economics, and English language learning and teaching. Alex Markov, RC Coordinator, and secretaries Ekaterina Nikolova and Rosalin Tsompov staffed the center. In-Country Coordinator McCollum, In-Country Economics Program Coordinator Dr. Stefan Petranov, In-Country Management Program Coordinator Mike Ruccolo, and English Language Program Directors Jeanette Miller and Baerbel Schumacher held extended office hours in the RC main office.

**A. Media Room**

1. During this period, Alex Markov and Rosalin Tsompov worked on the promotion of A/V room resources to the public. Alex

Markov carried out the printing of promotional materials, giving detailed information about the activities of the Resource Center and the opportunities it offers. These promotional materials were regularly placed at universities in Sofia. In spite of the vacation season, the average number of visitors per day remained steady at 9.9.

Total visitors	624
Days open	63
Daily average	9.9
Regular visitors	25
Males	341
Females	283
Students	399
Business managers	37
Researchers	35
Teachers	26
University professors	31
Journalists	7
Academic administrators	5
Others	84

2. The new location allowed for an increase of 2 hours in the daily operating hours of the Media room.

3. During this quarter, the EFL audio materials were again widely used, especially TOEFL tapes and books, SPECTRUM and INTERNATIONAL BUSINESS ENGLISH materials.

4. The IBM computer in the Media room was widely used by visitors seeking experience with the software available for use and training.

**B. Reading Room:** Due to the need to re-inventory and set up the new reading room after the move last quarter, the Reading Room was closed for one month, which resulted in a decrease in the total number of visitors. Upon reopening, it continued to be a very valuable resource to a wide variety of users as shown below:

Total Visitors	280
Males	151
Females	129
Students	96
Business Managers	61
University Professors	53
Researchers	25
Teachers	11
Others	34
Copies of materials used	855

**C. American Film Series:** The American Film Series has continued its very popular Friday afternoon showings in the Media

Room. Thirteen movies were shown within this period with an accent on legal rights in the U.S.A. The Festival continues to have its regular visitors.

#### **D. Resource Center Services to the Public and Faculty and Logistics Support**

1. The main activities of the RC Staff during this quarter were to keep the public informed about the project, to monitor the Media and Reading Rooms, and to support resident faculty.

2. In the beginning of July, in compliance with the renewed agreement for cooperation with the Sofia Central Library (SCL) and the restitution of part of the building, the RC moved to the central premises of the library. Good preliminary preparation allowed for prompt resumption of communications. The former telephone lines were re-installed and one new outside line and 4 extensions were added.

3. Because of Bogolina Dzhambova's departure to London, Rosalin Tsompov was appointed A/V Room attendant. Prior to Bogolina's departure, he had held part time assignments.

4. Alex Markov held several meetings with SCL director George Kraev. The following was agreed upon:

a. SCL will provide UDBC access to the large movie hall for cooperative activities, including the regular Friday film festival, the English Language Program video showings, and viewings for the general public

b. SCL will make announcements featuring UDBC activities on the Radio Sofia program " Christo Botev", during the cultural program presented by Mr George Kraev every Sunday.

c. In August a safe deposit box was leased from the Foreign Trade Bank on yearly basis (\$22) for the purpose of receiving bank documents, which is to improve control over UD account at the FTB.

d. Four shipments were received this quarter (a total of 43 boxes), containing books and materials. One of the shipments contained a computer, monitor and software to read CD ROM data, which were donated to SCL in compliance with the agreement.

e. The contract on the maintenance of the RC copier was renewed for another 6 months. The purchase of a special switch improved the efficiency of the basic printer.

f. The UDBC continued or started (\*) subscriptions to the following newspapers and magazines this quarter:

- (1) \*Newsweek
- (2) The American Banker
- (3) The Bulgarian Economic Review
- (4) 168 Hours BBN
- (5) SBD (Seven Business Days)
- (6) Business Central Europe

5. **Business Periodical Library:** The ProQuest Series 3000 workstation has been an important part of A/V room equipment and visitors have been spending a great deal of time searching for the data they need. During this quarter, new software and updates for April and May were received and installed.

a. CD-ROM ProQuest user statistics and demographics are shown below:

Total Search Requests	99
Regular Visitors	16
Students	28
Researchers	17
University Professors	14
Government Officials	6
Business managers	25
Journalists	9

b. The purpose of users's search requests are listed in order of frequency:

- (1) Theses, papers
- (2) Reports
- (3) Handouts
- (4) Research & investigation
- (5) Search for Business Contacts
- (6) Consulting
- (7) Preparation for lectures
- (8) Periodical bulletin
- (9) Study for Political Parties

c. Users requested searches in the following

general subject areas:

- (1) Bank Management
- (2) Marketing & New Products
- (3) International Business
- (4) Retailing
- (5) Finance and Taxes
- (6) Science & Organization
- (7) Bank Security
- (8) Environmental Issues

6. Efforts to Ensure Sustainability

a. A fee structure has been introduced for laser printouts from the CD ROM "ProQuest" business library; one page printed by the ProQuest workstation costs 2 lv.

b. Tickets for the Friday film festival are to be introduced soon.

**IX. Other Logistical Support**

A. Associate In-Country Coordinator Abadzhiev and Vanya Theodorova provided the administrative and logistical support at the CTFEP for the successful completion by a select group of students of four management and five introductory and intermediate prerequisite economics courses.

B. Translation of course and publicity materials was undertaken by Abadzhiev and Theodorova with occasional help from RC staff.

C. UDBC continued to employ Vera Georgieva, whose work has been excellent, as management program interpreter. Theodorova and Abadzhiev also interpreted.

D. **Promotion and Media Announcements:** The UD/NBU joint program offerings were published in the NBU catalog. UDBC also published an announcement of its NBU joint offerings in 24 Hours. UDBC distributed and posted promotional materials for its fall program in all Sofia Universities and centrally located educational establishments. Miller, Ruccolo, Abadzhiev, and Nikolova conducted an on-site promotion of the Small Business course cycle and the Management English courses at School No. 122 in front of a group of 100 applicants to the NBU B.A. program in business and economics.

E. Kate Dimitrova was hired as a temporary RC Secretary to fill the vacancy created when RC Secretary Bogolina Dzambova quit her job to pursue training in Britain.

F. The UDBC office assisted the Management and Economics Program Directors in the processing of applications, promotion, selection, and placement for their advanced programs and undergraduate programs. A Michigan placement test was offered to all applicants to the joint programs.

G. Abadzhiev attended the monthly sessions of the USAID Business Section held at the Citizens Democracy Corps (CDC) office and presided over by CDC's John Gardella. The meetings were instrumental in ensuring coordination among the various in-country assistance programs, and served as a vehicle for updating the other programs' coordinators on current UDBC activity and progress. Reports on these meetings were circulated among the UDBC administrators and program directors.

H. McCollum attended the monthly USAID meetings at the AID office complex in Sofia and the U.S. Bulgarian Business Initiatives group meeting at the Foreign Commercial Service Office.

## APPENDIX A

### MANAGEMENT COURSES OFFERED IN SOFIA DURING THE FIRST QUARTER OF THE THIRD YEAR

#### SCHEDULE

1. **Economics I. Fundamentals of Market Economics (Vulov);** 7 -30 July; 18:00-20:30, Tuesday through Thursday; New Bulgarian University (NBU); in Bulgarian only; 15 students
2. **Finance I. Fundamentals of Finance and Accounting (Ruccolo);** 19-23 July, 26 July-4 August, 18:00-20:30; Monday through Thursday; NBU; in English, with consecutive interpretation into Bulgarian; 14 students
3. **Finance I. Fundamentals of Finance and Accounting (Ruccolo);** 13 September-15 October; 18:00-20:30; Monday and Friday; in English, with consecutive translation in Bulgarian; 12 students
4. **Economics II. Managerial Economics (Miteva);** 7 September-5 October; 18:00-20:30; Tuesday through Thursday; NBU; in Bulgarian; 15 students

#### MANAGEMENT COURSE DESCRIPTIONS

1. **Economics I. Fundamentals of Market Economics (Vulov)** - This course develops an understanding of the forces that determine the behavior of a market economy and the impact of that behavior on individuals and institutions. Topics include the role of the banking sector, impact on spending and income, monetary and fiscal policy, trade relationships, and the world economy.
2. **Finance I. Fundamentals of Finance and Accounting (Ruccolo)** - This is a fundamental course which covers how business transactions are recorded in an accounting system and how such data is used in financial statements to describe the performance of a business and its present and potential conditions.
3. **Economics II. Managerial Economics (Miteva)** - This is a course in applied microeconomic theory. The emphasis is on concepts and methods of economic analysis useful for business decision making, especially under conditions of constraint, uncertainty and market imperfections.

## APPENDIX B

### ECONOMICS COURSES OFFERED IN SOFIA DURING THE FIRST QUARTER OF THE THIRD YEAR

#### SCHEDULE

1. **Advanced Microeconomics A (David Black);** 9 June - 6 July; 17:00-18:30, Monday through Thursday; NBU; in English only; 24 students
2. **Advanced Microeconomics B (Stoyan Tenev);** 12 July - 5 Aug; 19:00-20:30, Monday through Thursday; NBU; 19 students
3. **International Trade (Evangelos Falaris);** 9 June - 6 July; 19:00-20:30, Monday through Thursday; NBU; 26 students
4. **Economics of the Financial Sector (Burt Abrams);** 12 July - 5 Aug; 17:00 - 18:30; Monday through Thursday; NBU; 22 students
5. **Seminar: Fundamentals of a Market Economy (Yordan Yordanov);** 19-21 July; 14:00 - 16:00, Monday and Tuesday; 14:00 - 15:00, Wednesday; Ministry of Finance Qualification Center, Bankya; in Bulgarian only; 6 students
6. **Seminar: Fundamentals of a Market Economy (Hristo Mavrov);** 21-23 July; 14:00 - 15:00, Wednesday; 14:00 - 16:00, Thursday and Friday; Ministry of Finance Qualification Center, Bankya; in Bulgarian only; 6 students

#### ECONOMICS COURSE DESCRIPTIONS

1. **Advanced Microeconomics A & B (Black and Tenev)** - Topics include a review of basic market concepts, supply and demand, choice and demand, market demand and elasticity, general equilibrium and efficiency of markets, production and supply, pricing and output under perfect competition, and pricing and output decisions under monopoly.
2. **International Trade (Falaris)** - This course covers international trade issues following the standard equilibrium approach. Major topics covered are theory of international trade, factor mobility, commercial trade policy, the foreign exchange market, and open economy macroeconomics.
3. **Economics of the Financial Sector (Abrams)** - This course describes different elements of the monetary and financial system, including commercial and central bank activities. Also analyzed are the problems of designing a financial system which takes the savings of individuals and passes this money to business firms for investment purposes. The text is Mishkin's The Economics of Money

and Banking. (Note that this course was previously called **Economics of the Monetary and Financial System.**)

4. **Fundamentals of a Market Economy (Yordanov and Mavrov)** - This ten-hour seminar provides an overview of how standard micro/macroeconomic structures work in a market economy. This seminar was adapted for the audience of Bulgarian tax administrators to focus on the influence of taxation in price formation and fiscal policy. Topics covered included supply and demand, the economic organization of society, economic growth and business cycles, financial institutions, and money and banking.

## APPENDIX C

### ENGLISH LANGUAGE COURSES OFFERED IN SOFIA DURING THE FIRST QUARTER OF THE THIRD YEAR

1. **Business English - Intermediate (Baerbel Schumacher);** 14 June-9 July; 16:00-17:30, Monday through Thursday; NBU; 10 students
2. **Business English - Low Advanced (Jeanette Miller);** 14 June-9 July 9; 16:00-17:30; Monday through Wednesday; NBU; 9 students
3. **Business English - Beginner (Jeanette Miller);** 12 July-6 August; 9:00-12:00, Monday through Thursday; Ministry of Finance Training Center, Bankia; 12 students
4. **Business English - Advanced (Baerbel Schumacher);** 12 July-August 6; 9:00-12:00, Monday through Thursday; Ministry of Finance, Sofia; 6 students
5. **Advanced Academic English for Economists - (Jeanette Miller);** 21 September-14 December (Course in progress); 16:00-17:30, Tuesday, Thursday; NBU; 18 students

### ENGLISH LANGUAGE SEMINARS OFFERED IN SOFIA

1. **English Teacher Training: Teaching Reading/ Teaching Language through Literature (Jeanette Miller, Baerbel Schumacher);** 5-8 July; 11:00-13:00, Monday, Tuesday, Wednesday, Thursday; Ministry of Education training facility, Bankya; 30 participants
2. **English Teacher Training: Testing and Syllabus Design in Business English Teaching (Angela Labarca)** 5 July-9 July; 9:30-12:00, Monday through Friday; NBU; 10 participants
3. **How to Apply to an American university (Jeanette Miller, Baerbel Schumacher);** 8 September; 14:00-16:00; Sofia Municipal Library Video Sala; 75 participants
4. **How to write an American-style CV (Jeanette Miller, Baerbel Schumacher);** 9 September; 14:00 - 16:00; Sofia Municipal Library Video Sala; 81 participants

APPENDIX D

ENGLISH LANGUAGE PROGRAM QUALITATIVE EVALUATION FORM  
RESULTS FOR THE FIRST QUARTER OF THE THIRD YEAR  
MINISTRY OF FINANCE ENGLISH

FOR EACH QUESTION, PLEASE CHOOSE THE ANSWER THAT IS TRUE FOR YOU.  
THIS INFORMATION IS IMPORTANT TO US, AND WILL HELP US TO IMPROVE  
THE PROGRAM.

1. I AM SATISFIED WITH THE QUALITY AND EFFORT OF THE ENGLISH  
TEACHER(S) IN THIS PROGRAM.

100% YES                      0% NO                      0% DON'T KNOW

2. WHEN I BEGAN THIS CLASS, I MOST WANTED TO IMPROVE:

CHOOSE ONE, or TWO MAXIMUM!

- 89% A. My speaking
- 11% B. My reading
- 11% C. My writing
- 56% D. My understanding of spoken English
- 33% E. My vocabulary
- 11% F. My grammar

3. I THINK THIS CLASS HAS HELPED ME TO IMPROVE:  
(CHOOSE ALL THAT HAVE IMPROVED)

- 89% A. My speaking
- 67% B. My reading
- 44% C. My writing
- 78% D. My understanding of spoken English
- 22% E. My vocabulary
- 11% F. My grammar
- 11% G. Other - Please write here:

---

4. I THINK THAT MOST PEOPLE IN THIS CLASS

- 56% A. Know more English than I do
- 22% B. Know less English than I do
- 22% C. Know English about the same as I do

5. I ATTENDED CLASSES: (circle one)

100% 90% 80% 70% 60% 50% 40% 30% 20% 10%  
89% 0% 11% 0% 0% 0% 0% 0% 0% 0%

6. I PARTICIPATED: 22% A. More than others  
67% B. As much as others

11% C. Less than others

7. Please write your answer, in English:

What I liked most about this class was...\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Please write your answer, in English:

What I didn't like about this class was...\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

APPENDIX E

ENGLISH LANGUAGE PROGRAM QUALITATIVE EVALUATION FORM  
RESULTS FOR THE FIRST QUARTER OF THE THIRD YEAR  
ADVANCED MANAGEMENT PROGRAM

FOR EACH QUESTION, PLEASE CHOOSE THE ANSWER THAT IS TRUE FOR YOU.  
THIS INFORMATION IS IMPORTANT TO US, AND WILL HELP US TO IMPROVE  
THE PROGRAM.

1. I AM SATISFIED WITH THE QUALITY AND EFFORT OF THE ENGLISH  
TEACHER(S) IN THIS PROGRAM.

100% YES                      0% NO                      0% DON'T KNOW

2. WHEN I BEGAN THIS CLASS, I MOST WANTED TO IMPROVE:

CHOOSE ONE, or TWO MAXIMUM!

- 100% A. My speaking  
0% B. My reading  
0% C. My writing  
67% D. My understanding of spoken English  
0% E. My vocabulary  
18% F. My grammar

3. I THINK THIS CLASS HAS HELPED ME TO IMPROVE:  
(CHOOSE ALL THAT HAVE IMPROVED)

- 100% A. My speaking  
0% B. My reading  
0% C. My writing  
67% D. My understanding of spoken English  
33% E. My vocabulary  
50% F. My grammar  
50% G. Other - Please write here:

---

4. I THINK THAT MOST PEOPLE IN THIS CLASS

- 18% A. Know more English than I do  
17% B. Know less English than I do  
67% C. Know English about the same as I do

5. I ATTENDED CLASSES:(circle one)

100% 90% 80% 70% 60% 50% 40% 30% 20% 10%  
18% 50% 15% 17% 0% 0% 0% 0% 0% 0%

6. I PARTICIPATED: 0% A. More than others  
80% B. As much as others

16% C. Less than others

7. Please write your answer, in English:

What I liked most about this class was...\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Please write your answer, in English:

What I didn't like about this class was...\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**APPENDIX F**

**UNIVERSITY OF DELAWARE-BULGARIA COALITION  
POST-TRAINING SURVEY**

Greetings to all of our former students! We need your help in completing this survey related to the long-range effect of your participation in our program. Your answers will help us to evaluate and to improve our program.

**General Information**

1. When did you participate in the program? (For each year, circle the season in which you participated.)
- a. 1991 (Summer/Fall)
  - b. 1992 (Spring/Summer/Fall)
  - c. 1993 (Spring/Summer)

2. Where do you work?

---

Job title	Start date: month, year
-----------	-------------------------

---

3. Where did you work before?

---

Job title	Start date/End date
-----------	---------------------

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**I. English Language Program:**

1. Did you take a UDBC English course?
- a. yes
  - b. no

**If you answered "no". please go on to Section II.**

2. If "yes", circle the letter designating each course you completed.
- a. Business English
  - b. English for Economists
  - c. Customer Service English
  - d. Advanced English for Academic Study
  - e. English for Journalists
  - f. English for Banking
  - g. General/Community English

**SURVEY PAGE TWO**

3. Use the opinion scale on the right to indicate your agreement or disagreement with the following statements. For each statement, circle a number showing whether you agree or disagree. (5=Strongly agree, 1=Strongly disagree) If a statement does not apply to you, circle "3", "Not Applicable. Preface each statement with "As a result of my participation in University of Delaware English course(s),"

Strongly
N/A
Strongly  
Agree

Disagree

**As a result of my participation in University of Delaware English course(s),**

a. I now use English in my work.      5....4....3....2....1

b. I attend classes or seminars  
conducted in English.                      5....4....3....2....1

c. I will apply for a new job  
which requires English.                      5....4....3....2....1

d. I have more confidence in my  
English ability.                                5....4....3....2....1

e. I have received a promotion/  
salary increase due to my English  
skills.    5....4....3....2....1

f. I have a new job due to my  
English skills.                                 5....4....3....2....1

g. English has helped me in  
my business.                                  5....4....3....2....1

h. I have better educational  
opportunities because of my  
English language skills.                      5....4....3....2....1

4. How could we improve our English language program? Please use the space below for your suggestions.

**SURVEY PAGE THREE**

**II. ECONOMICS PROGRAM**

1. Did you take an economics course?  
a. yes  
b. no

If you answered "no", please go on to Section III.

2. If "yes", which of these courses did you take?  
(Circle all courses you completed)

- |                            |                                    |
|----------------------------|------------------------------------|
| a. Money and Banking       | b. Intro to Microeconomics         |
| c. Intro to Macroeconomics | d. Intermediate Microeconomics     |
| e. Inter. Macroeconomics   | f. Advanced Microeconomics         |
| g. Advanced Macroeconomics | h. International Economics         |
| i. International Trade     | j. Industrial Organization         |
| k. Economic Development    | l. Information & Firm<br>Structure |
| m. Econometrics            | n. Econometrics II                 |
| o. Public Finance          | p. Economics of Transition         |
| q. Labor Economics         | r. Government and Public<br>Choice |
| s. Agricultural Economics  | t. Farm Management                 |
| u. Agricultural Marketing  | v. International Ag. Economics     |

3. Use the opinion scale on the right to indicate your agreement or disagreement with the following statements. For each statement, circle a number showing whether you agree or disagree. (5=Strongly agree, 1=Strongly disagree) If a statement does not apply to you, circle "3", "Not Applicable. Preface each statement with "As a result of my participation in University of Delaware Economics course(s),"

<b>Strongly Agree</b>	<b>N/A</b>	<b>Strongly Disagree</b>
---------------------------	------------	------------------------------

**As a result of my participation in University of Delaware Economics courses,**

- |  |                       |
|--|-----------------------|
| a. I have a job teaching economics.                      | 5....4....3....2....1 |
| b. I have a research position in the field of economics. | 5....4....3....2....1 |
| c. I am pursuing an advanced degree in economics.        | 5....4....3....2....1 |
| d. I have a better understanding of market economics.    | 5....4....3....2....1 |

**SURVEY PAGE FOUR**

e. I use my understanding of market economics in my current job. 5....4....3....2....1

f. I use my understanding of market economics in my business. 5....4....3....2....1

g. I have a government position which requires an understanding of market economics. 5....4....3....2....1

h. I am able to make economics-related decisions or to influence others' decisions at my place of employment. 5....4....3....2....1

i. I plan to continue my economics education. 5....4....3....2....1

4. How could we improve our Economics Education program? Please use the space below for your suggestions.

**III. MANAGEMENT PROGRAM**

1. Did you take a management course?  
a. yes  
b. no

**If you answered "no", please go on to Section IV.**

2. If "yes", which of these courses did you take?  
(Circle all courses you completed)  
a. Fundamentals of Marketing  
b. Financial Management & Accounting  
c. Basics of New Business Planning  
d. Human Resource Management  
e. International Business Management  
f. Management Techniques for Small and Medium Business  
g. Production Operation and Control  
h. Total Quality Management  
i. Marketing Communications and Advertising  
j. Managing the Small Export/Import Business

**SURVEY PAGE FIVE**

3. Use the opinion scale on the right to indicate your agreement or disagreement with the following statements. For each statement, circle a number showing whether you agree or disagree. (5=Strongly agree, 1=Strongly disagree) If a statement does not apply to you, circle "3", "Not Applicable. Preface each statement with "As a result of my participation in University of Delaware Management course(s),"

	Strongly Agree	N/A	Strongly Disagree
<b>As a result of my participation in University of Delaware Management courses,</b>			
a. I have a management position in a private business.	5....4....3....2....1		
b. I have a management position in a state-owned firm.	5....4....3....2....1		
c. I have a management position in a government institution.	5....4....3....2....1		
d. I have started my own business.	5....4....3....2....1		
e. I am pursuing advanced training in management.	5....4....3....2....1		
f. I have a better understanding of western-style management	5....4....3....2....1		
g. I use my understanding of business and management in my current job.	5....4....3....2....1		

4. How could we improve our Management Training program? Please use the space below for your suggestions.

**IV. Your success story: Have you experienced some recent success in your business or profession? We would like to hear about you! Use the space below, or attach a separate page to this survey.**

Thank you for your prompt reply. Please return your survey in the enclosed stamped envelope by October 30, 1993.

**APPENDIX G**

**AGREEMENT FOR EDUCATIONAL AND SCIENTIFIC COOPERATION**

**Between**

**The New Bulgarian University  
and  
The University of Delaware**

Today ..... 1993

The New Bulgarian University, hereinafter referred to, as NBU, and the University of Delaware, hereinafter referred to as UD

AGREED TO

cooperate in the design and execution of graduate and undergraduate business and economics training, teaching technology transfer, and in the sharing of educational material resources.

**I. RESPONSIBILITIES OF UD**

**A. Academic Programs**

1. UD will execute training and educational programs at NBU strictly within the scope and period of the funding by the United States Agency for International Development Technical Assistance Grant for Bulgaria.

2. UD will execute at NBU two model advanced programs, in business and in economics, at the graduate level, as generally accepted by accredited U.S. Universities.

3. The design, curricula, faculty selection, student screening and evaluation criteria, and certification procedures for these programs are published in Appendix 1 herein attached. Course schedules will be published each academic semester. Summer course schedules are herein attached under Appendix 2.

4. The advanced business and economics programs will require one calendar year to complete.

5. UD will admit NBU faculty to the core courses of the advanced business program, provided they comply with placement requirements, to fill up existing vacancies.

6. UD will design and execute, in conjunction with NBU, undergraduate courses, seminars, workshops, and consultation in the areas of business and economics catering to the needs of NBU faculty and students from different departments, in accordance with a syllabus to be prepared at a later date and herein attached as Appendix 3. This training, introducing Western style teaching methods and techniques, will be executed in accordance with a schedule to be further agreed upon.

7. UD business and economics faculty will identify counterparts to work in close cooperation with and eventually team-teach courses of the joint program.

8. UD English Language Program will offer support Business English classes for UD graduate students and NBU faculty and staff, provided classes at a suitable language level for them are currently held.

9. UD English Language faculty will work in conjunction with NBU faculty from the Department of Applied Linguistics to coordinate, plan, and jointly, or independently execute English language teacher training.

10. UD English Language Program will share with NBU faculty its resource library of books, materials and aids on English language teaching, applied linguistics, and innovative methods.

11. UD will provide sufficient administrative staff to assist NBU in coordinating the educational programs offered by UD at NBU.

#### B. Material Resources

1. UD will create a library at NBU of original American literature in the areas of business, economics, American culture and English Language education, of a value of at least 25,000 USD.

2. UD will build bookshelves, worth more than 2,000 USD, for the display of the books of the said library.

3. UD will enter all books in a computerized catalog at UD expense.

4. Upon completion of the UD Bulgaria project the above resource will be donated to NBU.

5. UD will equip an administrative office with laptop computers and a Xerox 5026 copier to be used for the purposes of the joint educational programs.

6. UD will undertake all operational expenses of the joint educational programs, including its office telephone bill.

## II. RESPONSIBILITIES OF NBU

### A. Academic Programs

1. NBU will ensure that all of the above-mentioned UD educational programs be executed at NBU.

2. NBU administrators will help UD administrators coordinate and facilitate the educational programs under this agreement.

3. NBU faculty from the respective economics, business and applied linguistics departments will work in conjunction with UD faculty to achieve the aims of this cooperation, execute business and economics training and teaching technology transfer with the view of ensuring sustainability of the educational programs.

4. NBU will collect tuition fees for undergraduate courses and seminars, defined as joint UD/NBU offerings, whose size will be determined by UD and NBU administrators for each individual case and will not exceed tuition fees currently charged by NBU for comparable courses. Proceeds will be used to raise a special NBU fund for the further development of economics and management education, to be used upon completion of the UD Bulgarian project to ensure sustainability of the educational programs.

### B. Material Resources

1. NBU will dedicate a room to be used for the business and economics library.

2. NBU will identify one of its staff, to act as part time, or full time, librarian and execute placement and cataloging of books, and implement a system for reader access to the books.

3. NBU will provide an administrative office for UD administrators working on the joint programs, equipped with direct telephone line.

4. NBU will provide a suitable, office-type room, for UD and NBU faculty of the joint programs to hold consultation hours.

5. NBU will undertake rent, heating, and electricity expenses for the joint programs.

III. FINAL PROVISIONS

A. The provisions under the present agreement are subject to amendment and addition in areas perceived mutually beneficial by both parties. Additional areas of cooperation will be specified in Appendices to be attached to this principal agreement.

B. Updating and alterations of the terms of this agreement can be made at the end of each academic semester, and ratified by both parties.

C. In the event of systematic and indisputable failure to comply with the spirit and terms of this agreement by one of the parties, the other party is entitled to terminate the cooperation under this agreement at a month's notice.

D. The present agreement will become active on the date of its signing by both parties.

E. This agreement was drafted in 4 equal copies in English and Bulgarian, 2 for each party and signed

for NBU by

for UD by

.....

.....

Mr. Julian Popov  
Administrative Director,

Ms. Sandra McCollum  
In-Country Coordinator.

(Signed original is in Bulgaria)



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**Prof. Jeffrey B. Miller**

# **The Bulgarian Banking System**

**ATTACHMENT ONE**

**Sofia, 1993**

# Contents

Jeffrey Miller is a Professor of Economics at University of Delaware, USA and Program Director at Economic Station at University of Dalaware – Bulgarian Coalition.

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c/o Jusautor, Sofia

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## *Preface*

In 1991 the University of Delaware-Bulgaria Coalition, with the support of the United States Agency for International Development, began a program of economics education for Bulgarians. One of the persistent difficulties that I and my fellow economists have faced as we sought to be effective teachers of Bulgarian students and helpful observers of the Bulgarian economy was the absence of summary materials that capture the specific detail of the Bulgarian economic system. This monograph seeks to temporarily fill the gap regarding the banking system of Bulgaria. Because of rapid changes as Bulgaria transitions to a market economy, it is not possible to be entirely current. The institutional arrangements described are those which existed in Bulgaria during the winter of 1992 – 1993.

Our intended audience is two-fold. First are teachers and students of money and banking, who might use this discussion to supplement western textbooks on the subject. Second are interested observers of the Bulgarian economy who are already well versed in market economics. No attempt is made here to explain standard concepts in money and banking, but rather to place the Bulgarian variation within the standard context and vocabulary.

Research for this project began in the Autumn of 1992 as a class exercise of the Advanced Economics Program. The final class assignment for students in the money and banking course was to investigate a specific aspect of the Bulgarian banking system. This monograph is an integration and embellishment of the papers that resulted from their research.

I am indebted to the following program participants who contributed to the manuscript:

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Plamen Yossifov

In addition to contributing a participant paper, Plamen Yossifov was a research assistant on the project. Virginia Miller wrote Chapter II and edited the entire monograph. Special thanks are due to Andrew Kenningham who supervised the project, commented on an earlier draft and was invaluable in identifying bankers and central bank personnel who contributed important information.

Lubomir Christov, Chief Economist, Bulgarian National Bank, provided extensive comments on an earlier draft. Mary Susan Rosenbaum, Senior Economist, Federal Reserve Bank of Atlanta, provided a visitors perspective.

As can be seen, this monograph owes much to many. The remaining errors, however, are the sole responsibility of the author.

## Chapter One

# Monetizing the Bulgarian Economy

*If capital is at the heart of capitalism, then well-functioning capital markets are at the heart of a well-functioning capitalist economy.<sup>1</sup>*

While all economies must organize production and distribute the output of production among members of society, the institutions which produce and distribute commodities are very different in centrally-planned economies (CPEs) and capitalist economies. As Bulgaria transitions from a CPE to a capitalist economy, many financial arrangements must be dramatically altered.

One essential difference between the two systems is the importance of money in capitalist economies. In a capitalist economy *money buys goods*. When money buys goods, resources are directed towards those economic agents – enterprises or consumers – who have money. This contrasts sharply with the situation in a CPE where the role of money is much more limited. Inputs to enterprise production are determined not by the money which the enterprise has, but rather by central planners. Even in the area of retail sales where money is more commonly used in a CPE, money is less important than it is in a capitalist economy. Who obtains goods and services is often determined by non-monetary criteria. In a CPE having money does not necessarily mean that an individual can purchase a good.

Prices were released, or freed, in Bulgaria in February 1991. Suddenly money bought goods. The economy was „monetized,“ although not without creating serious stress as the new role of money was superimposed on old practices. Two transition problems are of special importance. The first has its roots in the different incentives for household saving and consumption that arose when the economy was monetized. Because money had not been particularly useful for purchasing goods in the CPE, many people had saved large sums. When goods could finally be purchased with money, this „monetary overhang“ created a large demand

<sup>1</sup> Stiglitz (1992), p. 161. This chapter draws heavily on Stiglitz's description of the institutional requirements for development of capital markets during the period of transition.

for the existing supply of goods. The sharp increase in prices that ensued generated an inflationary environment which remains a problem two years later. The second problem is in the production sector. Under central planning financial statements, framed in monetary units, were used to account for firm inputs and outputs. Useful as these financial statements might have been to the central planners, they did not play a direct role in allocating resources to firms since money could not be used to purchase goods. If enterprises needed additional credits to account for the goods allocated to them under the plan, the credit was advanced. The difficulty which has arisen is that this old governmental practice of granting additional credits has persisted although the function of money changed when the production sector became monetized. Now when money is advanced to enterprises in the form of subsidies or loans, it can be used to purchase inputs or pay wages so that scarce resources are being allocated in the process. However, the money has been advanced without market evaluations of the credit worthiness of the enterprises, so there is great risk that financial resources are not being directed towards the most productive activities. When enterprises favored by governmental subsidies and loans are inefficient, as is true in many cases, valuable resources are being wasted.

As these examples illustrate, with the change in the role of money must also come a redefinition of the whole set of financial arrangements and practices that support a monetized economy. Stiglitz (1992, p. 163) lists eight functions that must be performed by financial institutions in a market economy:

1. Management of the medium of exchange;
2. Transferring funds from savers to investors in new economic production;
3. Pooling small amounts of savings so that larger projects can be undertaken;
4. Choosing among projects so that the most productive projects receive the most support;
5. Monitoring the use of funds so that they are used in the intended way;
6. Enforcement of loan contracts so that the loans are repaid;
7. Definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken;
8. Lowering of risk by creating methods for diversification of investment risks.

None of these functions was performed by the financial system before. Since money did not buy goods, even the management of the medium of exchange, the first function, was done differently. The other

seven functions involve investment decisions, which were made by central planners using very different criteria than the evaluation of risks and profits. In creating its financial system, Bulgaria is faced with the challenge of creating institutional *structures* that will perform these necessary *functions*.

Although the functions of financial systems are consistent across capitalist countries, their structures vary significantly. For example, German and Japanese banks are tied much more closely to non-financial firms than in the United States. This reflects both cultural and historical differences. At this stage, Bulgaria has considerable latitude in designing the structure of its financial institutions, but, as has been true in other places, history does matter. Choices today are constrained by serious problems which must be overcome during the transition. These choices will influence the initial shape of these financial institutions, and once these institutions are established, their design will, in turn, influence future decisions.

The development of a financial sector in Bulgaria began with reform of the existing banking system. What was initially a monolithic bank was broken up into two tiers – a central bank and commercial banks. Loans and accounts of state enterprises were distributed among the new commercial banks. Under central planning all savings accounts of individuals were held at the State Savings Bank. This changed so that commercial banks were allowed to accept deposits. While these changes created a structure that superficially looks like the banking systems in capitalist economies, more fundamental changes are required before this system can successfully perform basic capital market functions.

At this point, it is time to retrace our steps. We shall first expand the discussion of the structure of financial institutions to which we have alluded by outlining the two-tier banking system as it is now codified in Bulgaria. We have said that the Bulgarian economy is monetized, but have not discussed the formal Bulgarian definitions of money, an omission that will be corrected in Chapter III. Many of the terms defined in the discussion of the money supply measures will be useful in Chapter IV, where we shall explore the activities of commercial banks as seen through the framework of their consolidated balance sheet of assets and liabilities. Then we shall turn to the important issues of how Bulgarian institutions perform the functions required in a capitalist economy. In Chapter V we derive a formula for determining the size of the money supply. This is followed in Chapter VI by discussion of the tools available to the BNB to control the money supply and the supply of credit in the economy. In conclusion, we shall briefly turn once again to Stiglitz functions of a financial system to assess the progress of Bulgarian financial institutions in performing their new roles in a market economy.

## The Structure of Bulgarian Banking

This essay began with Stiglitz's observation that „if capital is at the heart of capitalism, then well-functioning capital markets are at the heart of a well-functioning capitalist economy.“ It is equally true that at the foundation of well-functioning capital markets is a well-functioning central bank and commercial banking system. On June 28, 1991 the Law on the Bulgarian National Bank came into effect, altering fundamentally the roles, objectives and functions of Bulgaria's central and commercial banks.

### The Recreation of Commercial Banking

During most of the communist era all banking functions were the responsibility of the Bulgarian National Bank, which had absorbed through the process of nationalization all existing commercial banks. The BNB was under the direct control of the Council of Ministers. Besides the BNB there were only two other banks: the State Savings Bank, which was the only bank permitted to hold the accounts of individuals and the Bulgarian Foreign Trade Bank, which handled all foreign exchange operations for the country. In 1987 specialized or sector-specific commercial banks were formed, each restricted to lending in a particular area such as agriculture or transportation. These specialized banks were soon to be transformed into banks which loan to all segments in the economy in 1989. At that time, the government also created common commercial banks from the 59 branches of the BNB.<sup>2</sup>

Later a few new banks were granted licenses to operate in Bulgaria. Today the Government is in the process of consolidating small state-owned banks through the mechanism of the Bank Consolidation Com-

<sup>2</sup>R. Marisol Ravicz, *The Bulgarian Banking System, Bank Review: Quarterly Journal of the Bulgarian National Bank*, No. 2, 1992, p. 28.

pany. Once the consolidation is completed, bank shares will be offered to private domestic and international investors.

These reforms set the stage for the redefinition of roles and responsibilities in the new Law on the Bulgarian National Bank which established today's two-tier banking system.

### The Responsibilities of the Central Bank

Now the role of the Bulgarian National Bank (BNB) is limited to central banking and supervision functions. The BNB was given three mandates<sup>3</sup>:

(1) The main task of the Bulgarian National Bank shall be to contribute to the maintenance of the internal and external stability of the national currency. For this purpose, it shall formulate and implement the national monetary and credit policy and shall contribute to the creation and maintenance of efficient mechanisms of payment.

(2) The Bulgarian National Bank shall have the exclusive right of issuing banknotes in this country.

(3) The Bulgarian National Bank shall regulate and supervise other banks' activities in this country for the purpose of ensuring the stability of the banking system.

*Maintaining an Internally and Externally Stable Currency:* In the first statement, the BNB is given its most important and most difficult charge. Because the chapters which follow will discuss in detail the mechanisms used by the central bank to manage the money supply and to clear and collect payments, our comments here will be brief. It is useful, however, to highlight at this point the emphasis given in the Law on both „the internal and external“ nature of the task. Internal and external stability are related but independent tasks. They are the prerequisite for Stiglitz' first function, management of the medium of exchange, that must be performed by financial institutions in a market economy.

Internal stability is typically achieved when inflation is controlled by manipulation of money growth and when the currency is accepted as the medium for transactions. In a move to support the lev as the internal medium of exchange, the Council of Ministers passed in February 1991 Ordinance No. 15, which prohibited the use of foreign currency in internal transactions. More important to the viability of the lev for inter-

<sup>3</sup>Article 2, Section I, Law on the Bulgarian National Bank.

nal transactions, however, has been the smooth functioning of the foreign exchange markets. This has eliminated the incentive to transact in foreign currencies. The lev is now widely accepted in spite of the high inflation which has ensued. This is a major accomplishment for an economy in transition.

External stability depends on the establishment of foreign exchange rate convertibility. During the early phases of the transition, this was a major objective of the central bank. Here also the bank has met with considerable success. Since February 1991 when prices were released, the convertibility of the lev has been established for many types of transactions and the exchange rate has stabilized. During 1991 the floating exchange rate fluctuated between 15 and 22 levs per dollar. In 1992 the fluctuations of the lev were moderate and the lev appreciated in real terms over the year. Its nominal value rose from 22 to about 26 levs per dollar while the inflation rate has been approximately 80%.<sup>4</sup>

*Issuing Currency:* The second statement requires the central bank to decide on the issuance and withdrawal of banknotes. In 1992 the BNB circulated 7,735 million levs, bringing the total amount in circulation to 20 billion levs.<sup>5</sup>

As this mandate is discussed, bear in mind the distinction between money and currency. In controlling the **money supply**, which includes both currency and other liquid funds, the BNB is attempting to implement national macroeconomic objectives such as limiting inflation and spurring economic growth. In **issuing currency**, the BNB's objective is more limited. Decisions can be guided by public preferences, as to both quantity and denomination of currency so long as the central bank controls the overall quantity of money and credit.

The rapid inflation of the past several years has prompted a change in consumer preferences away from small lev banknotes and stotinki coins, to larger denomination notes. The BNB has decided, for example, to replace one, two, and five lev banknotes with coins, and to withdraw from circulation coins of 1, 2, and 5 stotinki by the end of 1995. Similarly, in 1992, the BNB circulated 200 lev banknotes for the first time, responding to the nation's desire for notes of higher denomination.

In addition to denominational preferences, the public at times devel-

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<sup>4</sup> A dramatically different story unfolds if the producer price index is used instead of the retail price index. In contrast to the 80% rise in the retail price index, the producer price index rose only 25% during 1992 and continues to rise at a much slower rate.

<sup>5</sup> "New Coins to Be Circulated in May," 168 Hours BBN, Vol. 3, No. 12, March 22-28, 1993, p. 3.

ops a need for relatively more currency and relatively less bank deposits. The BNB can respond to these seasonal needs by expanding the amount of banknotes in circulation. In 1992 circulation peaked at two separate times, first in August-September and then in November-December. These peaks may correspond to the public's increased needs for currency during holiday periods.

*Commercial Bank Regulation:* Finally, to the BNB has also been given responsibility as the State's regulator of commercial banks. Throughout the world, governments typically set rules and monitor the performance of banks to a much greater extent than they do other businesses. Underlying this caution is first the fact that banks operate primarily with the funds of others, those of their depositors, who require protection against mismanagement of their funds. Secondly, given the central role of commercial banks in the allocation of financial resources, the disturbing effects of bank failure can resound throughout the economy.

Central banks need not necessarily be also supervision agencies. Indeed the alternative of an independent supervision agency outside of the BNB was considered, but ruled out, by Bulgarian lawmakers in view of the limited quantity of skilled bank staff and the possibility of overlapping control issues with the BNB if such an arrangement was established. (Stratev, 1992)

The broad outline of the BNB's regulatory responsibilities regarding commercial banks are found in the Law on the Bulgarian National Bank. These general obligations are further elaborated in the Law on Banks and Credit Activity (1992). This latter specifies the power of the BNB to grant and revoke licenses for conducting banking operations. It additionally provides for both off-site and on-site inspections of commercial banks.

## BNB Organization

The functions of the BNB are administered by a Governor, a Managing Board, and a Plenary Council. The Governor, elected by the National Assembly to no more than two five-year terms, is the BNB's chief executive officer, responsible for organizing, directing and supervising the activities of the Bank, and representing it at home and abroad. The Governor is the chairman of the Managing Board. Other members are three Deputy Governors and five Heads of Departments of the Bank. All major policy and regulatory decisions relating to the BNB's three functions must be adopted by this Board. Intending to protect the Man-

aging Board from undue political influence, Article 15 of the Law stipulates that „The mandate of the Governor of the Bank, the Deputy Governors and the other members of the Managing Board may be suspended before the term set only if they have been sentenced for committing a crime of general character with malice prepense or are prevented from performing their functions for more than a year.“

The Law on the Bulgarian National Bank enumerates the duties of the Managing Board. It is directed to „discuss and take decisions on the implementation of the monetary and credit policies“. Specifically, it is directed to „fix the percentage of the minimum reserves to be held by the banks“, and to „fix the interest rates for this Bank's operations“. These functions are critical tools for the management of the economy. Only the Managing Board grants and revokes commercial bank licenses, and sets rules for banking activities.

In the Plenary Council, members of the Managing Board are joined by six experts from the financial and scientific community. The functions of the Plenary Council are more global in scope, defining the general direction of monetary and credit policies, rather than its specific implementation. The Council must approve the annual reports and the budget of the Bank.

## The Independence of the Bulgarian National Bank

A final important element in the structure of banking is the relationship between the central bank and the government. Ever since the founding of the Bulgarian National Bank in 1879, there has been controversy about the appropriate nature and extent of the Bank's independence from the government. A period of increased independence from government in the 1920's, for example, was followed by increasing government control in the 1930's. (Colander and Kenningham, 1993) The issue of the past as well as the issue of today is who should control monetary policy: an independent agency headed by an appointed official who in theory is protected by law from removal from office or the government selected by the citizenry? Independence is sought by those who wish to preserve the ability of a central bank to make needed but unpopular decisions on policy matters. Greater control by government is sought by those who value responsiveness to a governmental policy course. The relationship between the government and the Central Bank authorities continues to be contentious today as the question comes to

an economy in a transitional phase, bearing the burden of unemployment and inflation.<sup>6</sup>

The legal base which determines the relationship between the two institutions in general supports an independent central bank. Article 47 of the Law on the Bulgarian National Bank states that the central bank is to perform its functions „independent from the instructions from the Council of Ministries and other state bodies,“ although Article 1 places it „accountable to the National Assembly for its activity.“ Twice a year the BNB must report to the Parliament regarding its operations. However, in both 1991 and 1992 State Budget Law effectively overrode Article 49 which restricts the amount of direct uncollateralized credit the BNB can extend to the government. These actions call into question the BNB's independence at a practical if not a legal level.<sup>7</sup>

In this chapter we have seen that the structure of the Bulgarian banking system today consists of a number of recently reconstituted commercial banks under the supervision of the BNB. The BNB has responsibility for issuing currency and, most importantly, managing the total supply of money and credit. These functions are carried out by the Managing Board of the Bank, and led by a Governor. The central bank has been successful in establishing the lev as the medium of exchange, the first of Stiglitz' functions that must be performed by financial institutions in a market economy. Bulgarian banking laws indicate support for an independent central bank, although this independence has been challenged. Nevertheless, Bulgaria has codified the basic structure of a two-tier banking system.

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<sup>6</sup> See for example „Ex-Finance Minister and BNB Trade Accusations,“ 168 Hours BBN, Vol. 3, No. 8, February 22-28, 1993, pp. 1-2.

<sup>7</sup> Article 46 of the Law on the Bulgarian National Bank states. „The Bulgarian National Bank may extend to the state short-term credits with up to 3-month maturity but repayable not later than the end of the calendar year. The maximum amount of outstanding short-term credits at any time shall not exceed 5% of the annual revenue of the state budget, as well as the amount of the paid in statutory fund and the 'reserve' funds.“ With a decision of the Parliament, the BNB was obliged to extend an extra short-term loan to the Finance Ministry, at a total sum of 480 million leva, with maturity in December 1992, for the purpose of creating a special fund for increasing the pensions.

## Defining the Money Supply

The functions of money in a market economy are to act as a medium of exchange, a unit of account, and a store of value. Under central planning, however, money did not necessarily function as either a medium of exchange or as a store of value. Rather there were two types of money in Bulgaria. One type was used to pay wages and circulated among individuals. It was used to purchase goods and services on the market. The second type was in state enterprise bank accounts. It was used to describe the transactions which took place among state enterprises, which were constrained from easily converting the second type of money into the first type. When the Bulgarian economy was „monetized“ the distinctions between these two types of money disappeared. Enterprises can now use the second type of accounts to purchase all kinds of goods and services including labor services.<sup>8</sup> Now that the Bulgarian lev performs the functions of money as they are understood in market economies, Bulgaria faces the same issues of definition and measurement of money that exist in market economies. Arriving at good definitions of the money supply in Bulgaria is especially challenging, however, because financial institutions are constantly changing.

Different definitions of money are used depending on the purpose for which they are employed. Utilization of the proper measure of money is particularly important in the analysis of macroeconomic issues, where using the wrong measure can result in poor policy choices. Traditionally the most narrow definition of money is called M1 and successively broader definitions are referred to as M2, M3 and so on. M1 refers to assets that function as a medium of exchange. M2 includes all these assets as well as those which are extremely liquid, that is, easily converted into alternative assets which can be used as medium of exchange. M3, M4 include progressively less liquid assets.

The determination of what to include in each of these definitions can change over time depending on institutional arrangements and

<sup>8</sup> There are still controls on wage payments. The nature of these controls is different. It is a form of incomes policy which is commonly used in a market economy.

common practice. If mechanisms are established which enable economic agents to make payment with certain assets then these assets *could* be included in M1. They *should* be included in M1 if economic agents actually use them to make payments. For example, money market accounts in the United States pay interest rates competitive with savings accounts.<sup>9</sup> A limited number of checks can be written on these accounts each month. Even though the funds in these accounts can be used to make payments, individuals rarely do so. In other words, individuals could treat these accounts as a medium of exchange but in fact they do not. So, the decision was made to include them in M2, not in M1.

In Bulgaria, the BNB reports three measures of the money supply: M1, quasi-money and broad money. The Bulgarian M1 corresponds to the standard formulation. Broad money is the sum of M1, quasi-money, and import and restricted deposits.<sup>10</sup> In its 1992 annual report (BNB, 1992b) M2 was defined as broad money minus restricted deposits. The BNB does not formally report a measure of M3.

Currently the definitions of the money supply, M1, quasi-money, and broad money are:

$$M1 = C + DD_r(\text{lev})$$

$$QM = DD_r(\text{foreign currency}) + S + T$$

$$M2 = M1 + QM$$

where C is cash not in banks,  $DD_r(\text{lev})$  is demand deposits of firms in lev,  $DD_r(\text{foreign currency})$  is demand deposits of firms in foreign currency<sup>11</sup>, S is savings deposits and T is time deposits of all maturity levels. S includes settlement deposits, demand deposits of households, and children's deposits.

We shall shortly discuss each of these components, but first it may be useful to get an overall sense of the magnitude and movements of the different measures. Table I gives BNB's calculation of the money supply. Note that there has been a rapid growth of time deposits relative to other liquid assets, which is reflected in the growth of quasi-money. This differential growth in the measures illustrates the point that the choice of measures *does* matter.

<sup>9</sup> Mishkin (1992, p. 33) sees so much ambiguity in the use of these funds that he suggests that they should not be entirely included nor entirely excluded from the definition of M1. He proposes that a percentage of these balances be included in M1.

<sup>10</sup> Restricted accounts include residential deposits and funds deposited for purposes such as the registration of business licenses. There are about 4 billion levs in these accounts.

<sup>11</sup> In Bulgaria the demand deposits of firms are in both lev and foreign currency. Until October 1992 both lev and foreign currency deposits were included in the definition of M1. In November foreign currency deposits were moved out of M1, but were still included in the calculation of broad money.

Table 1

## QUARTERLY MONEY SUPPLY

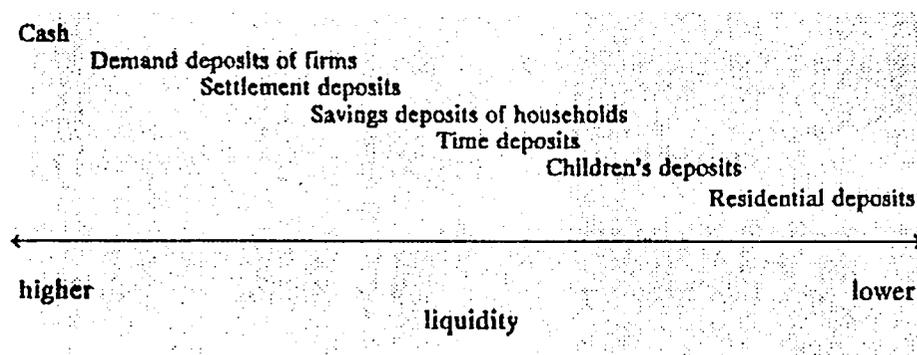
(billions of levs)

	Dec 1991	March 1992	June 1992	Sept 1992	Dec 1992	March 1993
Broad Money	111.61	123.05	128.57	146.88	167.50	175.95
M1	26.89	23.90	25.10	31.84	37.82	32.58
Cash	11.87	11.80	12.76	15.98	18.27	17.38
Demand Deposits	15.02	12.10	12.34	15.86	19.55	15.20
Quasi-money	81.13	95.87	100.40	111.78	126.87	139.39
Time Deposits	25.87	37.33	44.61	52.84	59.41	72.88
Savings Deposits	15.95	14.63	14.71	15.68	20.21	20.27
Foreign Currency Deposits	39.31	43.91	41.08	43.26	47.25	46.24
Import and Restricted Deposits	3.59	3.29	3.08	3.27	3.59	3.99

Source: BNB News Bulletins.

Figure 1

## THE LIQUIDITY OF BULGARIAN FINANCIAL ASSETS



### Definition of M1:

$$M1 = C + DD_f(lev)$$

M1 contains only the most liquid assets, cash and demand deposits. Both of these assets can be used as a means of payment. Reliance on cash as a medium of exchange is particularly strong in Bulgaria, however. By way of contrast, in the United States the cash-to-deposits ratio is presently about 42%. In Bulgaria there is a clear upward trend in the ratio, which reached 115% in February, 1993. The explanation for this high cash-to-deposits ratio is related to three factors: the mechanisms of payment, the time required for payment, especially in light of prevailing interest rates, and the evasion of taxes.

The use of banking services for making payment is still largely restricted to firms,<sup>12</sup> which have long used banking services for accounting under the plan. This has not been the case for individuals. Note that in the measurement of M1 only the demand deposits of firms in levs are included. Certainly a primary reason for the reliance of individuals on cash as a means of making payment is that they often have no alternative. Although settlement deposits, which are accounts held by individuals, can be used directly for payment, their use is limited to the payment of utility bills. This contrasts sharply with the United States and most west European countries where other forms of payment are widely used.<sup>13</sup>

A second factor has been the long periods required before payment was received through the Bulgarian bank clearing system. Under these circumstances cash can be the preferred means of payment even for enterprises. When interest rates are high, it is costly when money is not received on a timely basis. The BNB is implementing a new clearing system, the Banking Integrated System of Electronic tRANSfers (BISERA), intended to correct delays in payments clearance. It will be interesting to see if this will reverse the rising trend of the cash-to-deposits ratio.

A final reason for the high cash-to-deposits ratio is that cash payment can also be a means of avoiding taxes. As new taxes are implemented there will be an incentive for more cash payments.

<sup>12</sup> The major exception to this is that some utility payments can be made directly from a personal bank account. See the description below.

<sup>13</sup> It might be noted that \$100 bills are much more visible in Bulgaria than they are in the United States. There are two good reasons for this. First, Bulgaria has no currency notes of comparable size. Thus if someone wants to carry a large sum with them, carrying dollars is easier. Second, in the United States for most transactions of any size cash is not used. Credit cards or checks would be the preferred method of payment.

The movement of the cash-to-deposits ratio may reflect important trends due to the growth of the private economy. Private business is less connected to the traditional internal payment system. The individuals who operate new small businesses, particularly, are less familiar with the banking system than their state enterprise counterparts. Unlike enterprises operating under the plan, private firms are very sensitive to the opportunity costs of money stalled in a payments clearance system. Avoidance of taxes is a more important issue for them than for state enterprises. For many reasons, the private economy appears largely to be a cash economy, pushing the cash-to-deposits ratio to ever higher levels.

### *Definition of Quasi Money:*

$$QM = DD_f(\text{foreign currency}) + S + T$$

*Demand Deposits of Firms in Foreign Currency:* Until September 1992 approximately 60% of demand deposits at commercial banks were in foreign currency deposits.<sup>14</sup> Until November 1992 these accounts were included in M1. They have been moved to quasi-money because they are used to store value and make payments for imported goods rather than as a medium of exchange for domestic transactions. The reasoning behind the decision is similar to the example of money market accounts in the United States given earlier. That is, since these accounts are not in fact used for making domestic payments, they should not be included in M1.

*Settlement Deposits:* Settlement deposits are accounts which are held by individuals and can be used directly for payment of utility bills. In an important sense these are transactions accounts. However, since they can be used in only a limited way to make payment, their role is ambiguous.

*Savings Deposits:* Although savings deposits (i.e. accounts) are reasonably liquid, they are included in the calculation of quasi-money rather than M1 because they are not widely used for transactional purposes. The following are types of savings deposits.

- Savings deposits of households: At one time this was the only type of account available to individuals and only at the State Savings Bank. Now all commercial banks may offer these accounts. Unlike the past, individuals can now negotiate with the State Savings Bank to issue checks on these accounts. However, the usefulness of the checks is constrained by the small number of payments that can be executed with them, causing their inclusion in quasi-money rather than M1.
- Children's deposits: These savings accounts for children have restrictions on the withdrawal of funds, including the signatures of both parents, and in certain cases of the child as well. Because of these restrictions, the accounts pay higher interest rates.
- Residential deposits: Money put aside for the future purchase of housing was previously saved in these special purpose accounts which have various restrictions on their withdrawal, but which also pay higher rates of interest.

*Time Deposits:* The remaining category, time deposits, consists of deposits held at a bank for specified periods of one month to a year, with penalties for early withdrawal of funds. These are similar to certificates of deposit in the United States. Penalties differ among banks.

The interest rates on these accounts vary with interest rates in the economy. While the rates tend to adjust with the central bank rate,<sup>15</sup> normally there is no enforceable contractual agreement between the customer and the bank as to exactly how the interest rates will be set over time.<sup>16</sup> The inability of consumers to get a clear contractual agreement regarding interest rate adjustments on these accounts is an indication that the banks still enjoy a powerful position relative to their customers. In general, interest rates on longer-term deposits are higher to encourage customers to place their money in longer-term time deposits.

Time deposits are the fastest growing element of the money supply. Between December 1991 and December 1992 time deposits grew by 120%. This compares with a 40% growth in M1 and a 30% growth in demand deposits in lev. These large differences in growth rates are also apparent in the early 1993 figures. This high nominal growth rate of

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<sup>15</sup> The central bank rate is an interest rate set by the BNB. The BNB makes collateralized, i.e. Lombard, loans to the commercial banks at this interest rate. (Other loans from the BNB to the commercial banks may be at higher rates.) Many other interest rates in the economy are affected by the central bank rate. This rate is discussed in more detail below.

<sup>16</sup> Some banks include a statement that the interest rate is adjustable and dependent on the central bank rate, but then they do not abide by these statements.

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<sup>14</sup> Total demand deposits in September 1991 were 57 billion lev. Convertible currency deposits were 41 billion lev.

time deposits can be attributed to the high nominal interest rates on these accounts and the relatively low penalties for early withdrawal.

Throughout 1992 the nominal interest rate on time deposits hovered in the range of 40%. This very high nominal interest rate contributes to the very high nominal growth rate of time deposits in two ways. In the first place, the large interest payments accumulating in these accounts cause time deposits to grow significantly. Secondly, since interest rates on time deposits are substantially higher than rates found on other deposit accounts and penalties for withdrawal are sufficiently low, time deposits have become the deposit of choice for most people. This is especially true for shorter-term accounts of one month where the interest rate paid after the penalty is accessed is still usually within 2% of the savings account rate at the State Savings Bank. Penalties for early withdrawal vary considerably across banks.

Although these accounts pay high nominal interest rates, after taking account of inflation of 80%, the real interest rates on these accounts is very negative. The rapid growth in these accounts suggests that Bulgarians have few options for protecting themselves from the inflation.

Most of these funds are held in lev accounts in spite of further relaxation of restrictions on foreign currency accounts held by individuals. (BNB, 1992a, p. 30) With large differences between the interest rates paid on lev and foreign currency accounts and the increasing stability of the nominal value of the lev, lev accounts have become more attractive.

While time deposits are not used directly for making payment, they are now being used by individuals as a highly liquid asset which can be easily converted into cash for making payments. They now form an important part of the money supply. In 1992 about 33% of time deposits were in one-month deposits, 45% were in twelve-month deposits, and the remainder were in three and six-month deposits. (*Banker*, 17 May 1993) Since one-month deposits appear to be a form of near-money with a large impact on overall demand in the economy, they should probably be separated from the others in defining the money supply.

## Redefining the Money Supply

Recall that presently the definitions of the money supply, M1, and quasi-money are:

$$M1 = C + DD_1(\text{lev})$$

$$QM = DD_1(\text{foreign currency}) + S + T.$$

Given the number of ambiguities surrounding the use of various kinds of deposits, it may be appropriate to create a more refined set of definitions of the money supply.<sup>17</sup> There appear to be three classes of assets that can be distinguished from one another in terms of liquidity. In the first group are the principal means of payment in Bulgaria, cash in levs and lev accounts of firms. Foreign currency in circulation would ideally also be included in this group but at present it is unmeasurable. Foreign currency deposits of firms, demand deposits of households, settlement accounts and one-month time deposits fall into a group of near-monies which are sometimes used for payments or are frequently converted into cash for payment purposes. A third group is made up of children's deposits, residential deposits and longer-term time deposits, where restrictions on withdrawal decrease their liquidity.<sup>18</sup> Three measures of the money supply can be written:

$$M1 = C + DD_1(\text{lev})$$

$$M2 = M1 + DD_1(\text{foreign currency}) + \text{settlement dep.} + T(\text{one-month})$$

$$M3 = M2 + \text{children's deposits} + \text{residential dep.} + T(\text{long-term})$$

Since each of these components is measurable, it is possible to calculate the money supply using these definitions.

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<sup>17</sup> In the early 80's when new banking laws were passed in the United States new definitions for the money supply were created. For a short period the Federal Reserve calculated M1A and M1B.

<sup>18</sup> Another asset which may eventually be important is government bonds. Presently the secondary market in government bonds is just developing and very few of these bonds are held by firms or individuals.

## The Money Supply and Economic Policy

It is generally conceded that there should be a strong relationship between the growth rate of the money supply and inflation. This is particularly true in countries experiencing high rates of inflation.<sup>19</sup> Yet a recent study by Petranov (1993) finds little relationship between money supply change and inflation in Bulgaria even when several existing definitions of the money supply were used. The failure to find a high correlation between money growth and inflation may be due to radical changes in the velocity of money during this early transition period. Alternatively, these results may be due to poor measurement of the money supply. If the latter is the problem, then redefining the money supply can be a useful tool for future policy decisions.

<sup>19</sup> See, for example, Cagan's (1956) classic study of hyperinflations.

## Chapter Four

### Activities of the Commercial Banks

Understanding the activities of commercial banks is important for at least two reasons. First, the principal mechanism for passing savings from individuals to investors is through the commercial banking system. This is Stiglitz' second required function of financial institutions in a market economy. Since at present the variety of financial institutions is very limited in Bulgaria, the importance of commercial banks in this process of financial intermediation is great. Secondly, the banks play an important role in determining the money supply, a key macro-economic policy variable. The various money supply definitions discussed in Chapter III all include both cash held by the public and deposits at commercial banks. The role of commercial banks in the determination of the money supply is critical as these deposits are the liabilities of commercial banks. We begin by looking at the items that appear on the balance sheets of commercial banks. Then we consider how the commercial banks manage their assets and liabilities.

The consolidated balance sheet of Bulgarian commercial banks is given in Table 2 below. Before discussing the items of the balance sheet, some words of caution are in order. A new uniform accounting system and reporting system was first promulgated in February 1993. Banks are required to adopt the requirements by June 30, 1994. Since the new accounts will not be fully implemented for some time, there is still considerable unevenness and miscategorization in the accounts. The first three months of reporting of the consolidated balance sheet using the new accounts showed large jumps in several categories. For example, *other assets* jumped from 98 billion levs in January 1993 to 331 billion levs in March. In addition, banks with specialized roles can distort the overall picture provided by the aggregation of all bank activity. Such is the case of the Bulgarian Foreign Trade Bank's contribution to the *other assets* item, and the State Savings Bank's contribution to *attracted resources from non-financial institutions and other clients*. Aberrations such as these will be pointed out in discussion of the relevant balance sheet item.

## The Balance Sheet of Commercial Banks: Assets<sup>20</sup>

Following are commercial bank assets and their function.

*Money Resources:* This category includes all bank notes (cash) in the bank's vaults. Banks keep these funds to service the demands of their customers. Because cash is so widely used as a means of payment in Bulgaria, the level of cash held by banks needs to be higher than in other countries where other means of payment are more common.

Table 2

### CONSOLIDATED BALANCE SHEET OF THE COMMERCIAL BANKS<sup>21</sup> (31 MARCH 1993)

(billions of levs)

ASSETS		LIABILITIES	
A. Financial Assets	314.87	A. Attracted Resources	482.68
1. Money Resources	41.91	1. From banks and other financial institutions	373.69
2. Gov't Securities	8.75	2. From non-financial institutions and other clients	108.99
3. Claims on banks and other financial institutions	37.47	B. Future Revenues	23.90
4. Claims on non-financial institutions other clients	225.11	C. Other Liabilities	127.08
5. Bonds and other securities with fixed income	.14	D. Fixed Capital	21.90
6. Shares and other securities with yield	.28	1. Profit	2.90
7. Financial Long-term assets	1.20	2. Capital	13.13
B. Non-financial assets	3.59	3. Reserves	5.84
C. Future expenditures	2.41		
D. Rights to equity subscription	.07		
E. Other assets			331.45
F. Reported losses	3.17		
Total	655.56	Total	655.56

<sup>20</sup> This section draws heavily on material provided by Stoyan Iliev and Tsvetan Bonev. In addition to the BNB Bulletins and the Consolidated Balance Sheet of the Commercial Banks for January 1993, they also drew information from the newspapers *Money* (13 November 1992) and *168 Hours*.

<sup>21</sup> BNB News Bulletin, No. 8, 16-30 April, 1993, p. 38.

*Government Securities:* The government issues bonds to finance the deficits in its budget. These bonds differ in maturity, but most are for three and six months. Recently nine-month bonds have been sold. Although these bonds are issued by the Ministry of Finance, they are sold at auctions organized by the BNB. Secondary markets in these bonds have been developing since January 1993. The ability to trade in these markets increases the liquidity of the bonds and make them more attractive to commercial banks. Commercial banks already hold a large share of the outstanding amount of these bonds.<sup>22</sup>

There are also longer-term government bonds which are mainly held by the State Savings Bank. 4.1 billion levs of these are 20-year bonds issued as bad debt replacement in 1991. In the fourth quarter of 1992 some additional 3-year bonds were issued. The State Savings Bank has offered to sell these securities but there has been little interest in their purchase.

*Claims on banks and other financial institutions:* In this general category there are two types of claims: deposits at other commercial banks and deposits at the BNB. Within each type there are several distinctions that should be made among the purposes of these deposits:

- Reserves: By law commercial banks must establish current and deposit accounts at the BNB and keep 7% of the total amount deposited with them in these accounts. These accounts at the BNB pay no interest. When mandatory reserves were introduced in 1990, commercial banks were permitted to make foreign currency deposits to satisfy this reserve requirement. However, the ratio of foreign currency reserves to total reserves were not permitted to exceed the ratio of foreign currency deposits to total deposits held at the commercial bank. This is being phased out during 1993. By the end of 1993 all reserve deposits at the BNB are required to be in levs.
- Settlement in levs: Commercial banks also have accounts at the BNB which are used for settlement purposes (i.e. clearing balances). When one enterprise makes a payment to another in levs and the two enterprises use different banks, the transfer of funds between the two enterprises also becomes a transfer of funds between the two banks. Suppose, for example, the enterprise making payment has an account at Balkanbank and the enterprise receiving payment has an account at TS Bank. When funds are trans-

<sup>22</sup> The banks also act as agent for individuals who wish to purchase these bonds. An individual goes to the bank and the bank makes the purchase in the auction market. The other large purchaser of government bonds is the State Insurance Fund.

ferred between the two enterprises, settlement of the transactions occurs by deducting funds from the settlement account which Balkanbank has at the BNB and adding these funds to the settlement account that TS Bank has at the BNB. The settlement accounts which commercial banks have at the BNB pay interest of 14%. (*BNB News Bulletin* 5, 1993)

- Settlement in foreign currency: The system of clearing transactions through the BNB only applies to transactions in levs. Any transactions in foreign currency must be cleared by the banks themselves.<sup>23</sup> To facilitate this process commercial banks hold deposit accounts at other commercial banks. The Bulgarian Foreign Trade Bank is the largest provider of international services for other commercial banks, but any bank with a full license, of which there are presently seventeen, can provide these services.
- Term deposits at the BNB: Commercial banks can also deposit money at the BNB for specified periods of time. The interest paid on these deposits range from 23% on deposits which require two-days notice before withdrawal to one-year deposits which pay 48%. (*BNB News Bulletin*, 5, 1993)
- Interbank loans: These are loans among commercial banks through the interbank deposit market. Most of the transfers occur from the State Savings Bank, which still receives the greatest proportion of all individual savings deposits. Other banks tend to be net borrowers in this system. (*BNB News Bulletin*, 2, 1993)

*Claims on non-financial institutions and other clients:* An important function of banks is to make loans to support business activity. Banks can make loans both in levs and in foreign currency. In December 1992 approximately 40% of all loans were in foreign currency. (*BNB News Bulletin*, 2, 1993.) This category includes only loans made to commercial and industrial organizations, and individuals. Loans to other banks are included in the category *claims on financial institutions and other clients*.

- Commercial and industrial organizations: These loans are to both state enterprises and private firms.<sup>24</sup> The interest rates on these

<sup>23</sup> While these foreign currency transactions are now settled through correspondent relationships between banks, in the future it is hoped that foreign currency transactions will also be cleared through the BNB. (*BNB Regulation BUS 1092, Settlement in BNB*, p. 2.1; 2.2.6)

<sup>24</sup> Several important restrictions on „big loans“ i.e. „loans to one person or economically related persons“ are set forth in the Law on Banks and Credit Activity, Article 28. A large loan exceeding 15% of the owners' equity in the bank must have the explicit approval of the bank management and may not exceed 25% of the owners' equity. The total of such loans cannot exceed eight times the owners' equity.

loans are negotiable. Within this category are loans to State enterprises which, because of the difficulties with repayment, have presented serious challenges to the Bulgarian banking system. See „Issues in the Management of Bank Assets“ below.

*Individuals:* Banks also make loans to individuals for housing and other purposes. These loans are usually made by the State Saving Bank, whose interest rate is the lowest one. Regulations govern eligibility for consumer loans.

*Bond and other securities with fixed income in trading portfolio:* These are bonds and securities of less than one-year maturity.

*Shares and other securities with yield in trading portfolio:* This category includes stock and ownership shares in nonfinancial enterprises. For any bank the total value of investments in this category cannot exceed the value of the owners' equity in the bank. (Law on Banks and Credit Activity, April 1992, Article 29) There is substantial debate regarding the desirability of commercial banks making equity investments. See „Management of Bank Assets“ below.

*Financial Long-term Assets:* This category includes assets longer than one-year maturity.

*Non-financial Assets:* This category includes all bank property including buildings and equipment.

*Future Expenditures:* These are prepaid services.

*Rights to equity subscription:* This is a temporary entry which reflects the value of equity shares in the bank which have been sold but payment has not been received. When the money is received, this entry is eliminated and money resources are increased.

*Other assets:* This is the largest category in the consolidated assets of Bulgarian commercial banks. The consolidated balance sheet shows approximately 50% of assets as *other assets*, but over 90% of these other assets reflect „exchange rate differences due to lev depreciation“ at the Bulgarian Foreign Trade Bank. (BNB, 1992a, p. 66) Most of Bulgaria's foreign debt is held at the Foreign Trade Bank. Since these accounts are in levs and the foreign debt is in foreign currency, changes in the exchange rate alter the lev value of the foreign debt. When the lev depreciates in nominal terms, as it has over the past three years, the liabilities of the Foreign Trade Bank increase. This adjustment in liabilities is balanced in these accounts by a concomitant adjustment to *other assets*.<sup>25</sup>

<sup>25</sup> Various accounting conventions can be used to adjust for exchange rate changes. These accounting tools should reveal the risks that banks bear when they have liabilities and assets in different currencies. The disturbing aspect of this accounting procedure is that „other assets“ created in this way do not represent claims which the banks have on other resources.

*Reported losses:* This is a temporary entry. At the end of the period it is eliminated when losses are subtracted from *fixed capital* on the liability side of the balance sheet. Note that on the balance sheet of Figure 2 losses are greater than reported profits.

## The Balance Sheet of Commercial Banks: Liabilities

The liabilities side of the balance sheet of Bulgarian commercial banks consists of the following items.

*Attracted resources from banks and other financial institutions:*

There are two distinct liabilities that are grouped under this category. The first are loans between Bulgarian banks; the second is the Bulgarian foreign debt.

Commercial banks can borrow funds either from other commercial banks or the BNB. All funds borrowed from other commercial banks and some of the funds borrowed from the BNB pass through either the interbank deposit auction market or the interbank money market. The interbank deposit auction market was once a major source of bank funds. The BNB is now moving to collateralized forms of bank loans like Lombard loans. These and other instruments of monetary policy will be discussed in detail in Chapter VI.

The second type of borrowing from financial institutions is money borrowed from foreign banks and institutions. This includes the Bulgarian national debt, the majority of which is now in accounts at the Bulgarian Foreign Trade Bank. At the end of 1992 the foreign debt accounted for about 60% of total bank liabilities.

*Attracted resources from non-financial institutions and other clients:* These include all demand, savings and time deposits held by individuals. Since the State Savings Bank was the only bank used by individuals before the reforms, the majority of these accounts is still at the State Savings Bank. Over time, however, there has been a progressive movement away from the State Savings Bank as other banks compete for these funds.

Also included in this category are both transaction and non-transaction deposits of organizations and firms in levs and foreign exchange. Enterprises which have transaction deposits can make payment through the electronic payment system. All banks are now connected to this system.

*Future revenues:* When interest is due on loans but is not paid, the

interest is credited as an asset. The balancing entry on the liability side is future revenues. Similarly, when banks purchase bills-of-exchange at a discount (i.e. below its face amount), they are carried on the books at their full face amount on the asset side. The difference between the face amount and the price actually paid is balanced on the liability side under *future revenues*.

*Other liabilities:* This category should include wages for bank personnel, fees and commissions for services, etc. At present this category is much too large for these items alone. This probably reflects the fact that the new balance sheet accounting procedures are not fully understood by bank personnel. Many items are probably being placed here when accountants are unsure where they belong.

*Fixed capital:* This category represents the ownership value of the banks. Regulations now require that banks operating within Bulgaria to have a minimum of 200 million levs in capital. Banks with an international license need 500 million levs (BNB, 1992a, p. 60). In accordance with the provisions of the international Basel agreements, the banking law specifies that owners' equity should not fall below 8 per cent of risky assets.<sup>26</sup> (Law on Banks and Credit Activity, April 1992, Article 21)

Presently, the Bank Consolidation Corporation (BCC) is working to reorganize the banking system. The basic goal of the BCC is to bring about mergers between banks so as to create eight to ten banks and then prepare them for privatization. (BNB, 1991, p. 76) Capital in the banks held by the Bulgarian Foreign Trade Bank, the BNB and state enterprises are being transferred to the BCC which is then to organize the privatization process. So far the BCC has helped bring about the creation of the United Bulgarian Bank which is a merger of 22 smaller banks.

This category is divided into three subgroups: profits, capital and reserves. Profits is a temporary entry and reflects the profits during a period of time. At the end of the period profits minus losses are used to adjust the level of capital. Reserves are funds put aside in anticipation of future losses caused by loans which go into default. When defaults are expected, banks reduce their dividends and create reserves. By setting aside funds over several years it is easier for banks to manage their losses.

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<sup>26</sup> The Basel agreements identify different risk categories. Owner equity requirements vary across different risk categories.

## Issues in the Management of Bank Assets

In managing their asset portfolios private banks pursue three often contradictory objectives: profitability, liquidity, and solvency. For banks to be liquid they must hold assets that are easily converted into transferable assets. To ensure solvency the banks must be cautious about the riskiness of loans. To be profitable, they must put financial resources to work, seeking the highest yields on assets. But none of these can be pursued independently of the others. High yields can mean not only higher profits but also greater risk of insolvency. Liquidity can be at the expense of profitability as money sits idle. When banks manage their assets, they are pursuing strategies that will fulfill each objective without seriously impairing the others.

There are several features of the Bulgarian financial environment which further complicate the already difficult task of bank asset management. We shall focus on three of the major issues: the paucity of secondary markets in most assets, the burden of bad loans of state enterprises, and the need to finance the emerging private sector. Each impacts liquidity, solvency or profitability of Bulgarian commercial banks.

*Secondary markets:* The paucity of secondary markets in most financial assets limits the strategies that Bulgarian commercial banks can pursue to maintain liquidity. Secondary markets are valuable to banks because they enable them to move quickly in and out of holding assets to take care of unanticipated or extraordinary needs for cash. Until recently the bankers' only choices for maintaining liquidity were to hold cash, deposits at the BNB and to make short-term loans with other banks through the interbank money market. With the development of secondary markets in government securities beginning in January 1993, banks can now hold these securities and sell them when they need extra funds. These markets are still very limited, however, and cannot be compared with government securities markets in places like the United States where huge sums are transferred on a daily basis.

*Bad loans:* One aspect of the reform of the banking system was the distribution of loans or credits of state enterprises to the newly formed commercial banks. The unfortunate legacy of these state enterprise loans is severely challenging the banking system. The „original loans“ to many state enterprises were not really loans in the normal sense at all. The money was extended under the previous system of central planning where the risks of default on repayment were not evaluated. Once these loans appeared on the accounts of the newly established commercial

banks, they became assets of these banks. As bank assets, the loans had value only if they were repaid. Unfortunately, many state enterprises are suffering from severe financial problems and are therefore not able to repay these loans. They cannot simply be written off as the banks holding them would be seriously threatened with insolvency.

These problems have been exacerbated by high interest rates. When prices were freed in February 1991, nominal interest rates rose sharply to reflect the high inflation. Even state enterprises that might have been able to repay existing loans were faced with high interest payments on the loans. The banks were fearful that if the loans went into default they might be threatened with bankruptcy themselves. The banks, therefore, do not want to declare the loans to be in default.

There was also government complicity in all of this. The government feared high unemployment and social unrest. State enterprises were in bad financial difficulty, but they were still functioning at some level. If the bad debts forced liquidation of state enterprises, unemployment would rise even higher. The banks understood this and recognized that the government would bail them out if state enterprise loans were not repaid. Thus the banks knew the risks associated with extending further credits to the state enterprises were low.

In an attempt to manage the bad debt problems of the state enterprises, banks are now faced with a choice of converting loans previously made to state enterprises into equity or replacing these loans with twenty-year government securities. If the banks choose the conversion into equity, they must sell the equity interest in the enterprises within three years.<sup>27</sup> Conversion to equity carries greater risks for the banks than holding government securities. It is not clear the banks are sufficiently experienced in valuation of such risks. While conversion will take immediate pressure off the government to issue more government securities, it will almost certainly create more problems for some banks in the near future.

*Financing the private sector:* The principal function of commercial banks should be to make loans to the business community. However, loans to the private sector have been very limited so far. Between June 1991 and June 1992 loans to the private sector increased from only 5.0% of domestic credit to 5.8%. Non-financial government enterprises

<sup>27</sup> Provisions for this conversion are laid out in the Ministry Council Enactment No. 259 of 28 December 1992. This modifies Ministry Council Enactment No. 234. This conversion is only for banks with more than 50% government ownership and enterprises with more than 50% government ownership. 17 billion lev has been set aside for this conversion in the 1993 budget (See Money, 26 April 1993).

still absorbed 60.8% of domestic credit in June 1992. (BNB, 1992a, p. 40) This bias towards the state sector continues to impede the development of the private sector in Bulgaria.<sup>28</sup>

There are several reasons for this failure, in Stiglitz' terms, of the financial system to transfer funds from savers to investors in new economic production. First, there is a differential in the risk that banks incur when they loan to the private sector. While there is an implicit guarantee from the government that they will be protected when loans to state enterprises go into default, there is no similar guarantee for loans to the private sector.

Secondly, there is great risk in the private sector. The economy is going through enormous change. Future developments are difficult to predict. Most prospective business people are very inexperienced; most bank personnel are very inexperienced as well. All these factors increase the likelihood that mistakes will be made and increase the riskiness of loans. During this early period of transition, uncertainty and inexperience make it extremely difficult to choose among projects so that the most productive projects receive the most support, and to effectively monitor the use of loaned funds (Stiglitz' 4. and 5.).

Third, the laws regarding the bank's right to seize collateralized assets in the event of default are still vague. Without the ability to seize such assets, banks cannot effectively use collateralization to protect themselves against future risk.<sup>29</sup> Absent a bankruptcy law, the Bulgarian financial system cannot meet Stiglitz' seventh criterion of definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken.

A fourth factor are the credit ceilings imposed by the BNB. These credit ceilings restrict the „maximum possible increase of the total debt on the loans in local currency for the business activities of the firms and other organizations owed to the banks.“ (BNB, 1991, p. 39) Restricting only the amount of bank assets which can be used to make loans to businesses in effect encourages banks to use their funds for other purposes such as equity investments in firms or purchases of government

<sup>28</sup> The data here are very confusing. The 1992 Annual Report of the BNB shows approximately 15% of loans going to the private sector for both 1991 and 1992, thus contradicting the earlier report. But the new figures show the share of private sector loans declining from 1991 to 1992.

<sup>29</sup> There has been discussion that Decree 56, which was passed before the transition began in earnest, gives the banks, and only the banks, the right to seize property. Because risk is so difficult to access in the present environment, some banks are relying heavily on collateral to protect themselves even though they know the process involved in seizing the property will be lengthy.

securities. It also heightens competition within the controlled sphere where loans to private sector businesses are pitted against loans to state enterprises. Given the greater risk associated with private sector loans, banks see loans to state enterprises as more attractive. Without the constraint of credit ceilings, banks might broaden their loan portfolios to include assets of higher risk. Under the present circumstances, credit ceilings have hampered the growth of private sector loans.

In addition to these already formidable complications is the inflationary environment which make bank loans problematic for business people who wish to engage in production. When nominal interest rates reach levels of 80%, the borrower may be forced to pay back an amount almost equal to the original sum borrowed within a year. Although this may not be a problem for traders who are borrowing money to increase their inventories for a temporary period of time, it can cause major cash flow problems for someone engaged in production. At the end of one year a new firm might barely be producing anything at all. Without production there is no way that sufficient revenue can be generated to pay the interest on a loan of 80%.

One alternative to this dilemma is for banks to make equity investments in firms so that there need not be any interest repayment at the end of the first year. This eliminates the cash flow problem of firms associated with loans. It creates, however, issues for the banks regarding solvency as the risk of holding equity is greater than the risk of holding fixed interest bonds. For example, in countries where good secondary markets exist for both corporate bonds and equity, there is much greater volatility in the prices of common stock shares than there is corporate bonds. The value of equity shares is much more dependent on the fortunes of firms than is the value of loans. Thus, empowering banks to make equity investments provides an alternative to loans, but it does so at the cost of greater risks to the banks. Capitalist countries differ greatly as to whether banks are permitted to purchase equity interest in nonfinancial institutions. For example, in the United States during the Great Depression concern that banks might invest in high-risk projects led to the passage of laws prohibiting banks from owning shares in nonfinancial enterprises. (Mishkin, p. 59) At the present time, Bulgarian law permits commercial banks to hold equity investments in an amount not to exceed the value of the owners' equity. (Law on Banks and Credit Activity, April 1992, Article 29)

Finding solutions to these problems is important if the private sector is to grow and expand beyond the development of small largely self-financed businesses. Two changes must be undertaken. First, the banks must find relief from the burdens of the state enterprise debt. Secondly,

incentives must be established for them to make more loans to the private sector.

The first objectives can be accomplished by replacing state enterprise debt with government debt. There is some hesitation to do this since it appears to increase the size of the government debt. In truth this is a paperwork transaction since all the entities belong to the state. Once this transaction is accomplished, clear signals must be given that any further loans to state enterprises will involve the same risks as other loans that might be made. The government must demonstrate that it is unwilling to save state enterprises, even if it means increases in unemployment.

The second objective, increasing loans to the private sector, is more difficult to accomplish. Permitting private loans to be made outside of the control of the credit ceilings would provide some help, but more encouragement to make such loans is probably warranted. This might take the form of partial government loan guarantees for private sector loans. For example, the government might agree to cover some percentage of future loan losses when private sector loans are extended. Inexperience in granting loans and evaluating risk will still lead to serious mistakes. However, the degree of resource misallocation will probably be less than the distortions caused by the present biases towards state enterprise loans. These problems can only be overcome over time. Even well trained loan officers would have difficulty making loans under the present circumstances.

## Issues in the Management of Liabilities

The liability side of the balance sheet describes how bankers acquire funds that can be loaned out. Banks prefer to acquire funds which require low interest payments and remain in the bank for long periods of time. Commercial bankers are far from powerless in managing the liabilities side of the balance sheet. By varying the interest rates they pay and the types of deposits they offer, banks can influence the deposits they receive. Furthermore, banks can obtain funds by borrowing money either from the central bank or from other banks.

In most countries demand deposits are an important part of the deposit base. In Bulgaria, because of the difficulties in transferring funds from one bank to another, the size of transactional accounts is relatively small. The development of the BISERA system for transferring funds between banks in a shorter period of time should make these accounts more attractive.

Over the past two years the growth of time deposits relative to other forms of deposits shows that banks have found a deposit that is very attractive to individuals. The progressive shift of individual deposits away from the State Savings Bank to other commercial banks also demonstrates that there is growing competition among the banks for individual savings. (BNB, 1992a, p. 37)

Another important source of funds for the commercial banks is borrowing funds from the BNB. This borrowing takes a number of forms but all falls under the general category of „refinancing.“ Borrowing from the BNB allows the money supply to expand. (Further explanation of this mechanism appears below, in Chapter V.) For this reason the BNB needs to keep careful control over the amounts of money it lends to the banks.

Another form of borrowing is from one bank to another. The principal mechanism for this borrowing and lending among banks is the interbank money market. On this market banks which have no use for some of their funds are able to sell their deposits to other banks who need the funds in order to make additional loans. The establishment of this market in 1991 greatly increased the efficiency of the banking system since it made it possible for funds to be transferred to banks which had the best use for them. The price in the market is the interest rate which one bank pays another for borrowing the funds. The interest rate is a market rate which reflects the supply and demand for loanable funds. Higher interest rates reflect more restrictive credit policies in the economy as banks compete for more limited funds.

The ability of banks to attract deposits depends on the confidence that people have in the bank. If people think that their money is safe, then they will be more willing to entrust their money with the bank. In many countries bank deposits are protected by some form of government guarantee. If the bank fails, individuals know that their money (or part of their money) will still be returned to them.

At present the only bank in Bulgaria which offers an explicit government guarantee on deposits is the State Savings Bank. When the Yambol Bank failed, however, the government protected deposits. So there appears to be implicit government protection as well. Still, because of its explicit guarantee, the State Savings Bank has a competitive advantage relative to other banks in attracting deposits. An important question is whether this guarantee should be expanded to other banks in the system or eliminated all together. The dangers of expanding the guarantee are clear from experience in the United States during the 1980's when such guarantees led to a gross misallocation of resources. (Mishkiri, pp. 254-56) On the other hand, the guarantees provided sta-

bility for the U.S. banking system for a period of more than 40 years after the Great Depression.

Building confidence in financial institutions is important at this stage of the transition. Providing deposit guarantees can be an important way to attract funds into the banking system where records can be kept of payments among economic agents. Still these funds can be misused if banks are not properly supervised and a well-designed regulatory structure is in place. Presently such a structure does not exist and the dangers of deposit guarantees are too great. However, a goal for the development of a regulatory structure should be the possibility of establishing a deposit guarantee so that banks will be able to attract more savings from the public.

## Role of Commercial Banks

Commercial banks perform two important functions in the Bulgarian economy. First, deposits of the banks are part of the money supply. Secondly, banks are financial intermediaries which pass funds from savers to investors. Until other financial institutions develop, banks will have tremendous influence on future investment in Bulgaria and the development of the Bulgarian economy. Important improvements in the banking system have been made since the transition to a market economy began, but there are still very serious problems which must be solved. We have noted the ways in which the current financial system is unable to meet many of Stiglitz' requirements for a market economy. Between 1989 and 1992 net investment in Bulgaria declined a „staggering 85%.“ (PlanEcon Report, December, 1992) If this investment record continues, future growth of the Bulgarian economy will be seriously impeded.

## Money Supply Determination

The supply of money and credit in the economy is determined by an interaction between commercial banks and the BNB. In this chapter we describe this interaction and develop a formula which describes how the money supply is determined in Bulgaria. We begin with a description of the transaction settlement system that is now being established in Bulgaria. This is followed by a discussion of the relationship between the BNB and the commercial banks as defined by the law on commercial banking. Finally, a modified version of the standard money supply formula is derived.

## Transaction Settlement System

Before the movement towards a market economy, there was no need to quickly clear transactions through the banking system. The banks performed the accounting procedures used by the central planning system, but not the type of transaction service essential in a market system. It was not uncommon for transactions to take several weeks to clear. To meet the demands of the changed environment, the BNB has implemented the BISERA electronic gross settlement system which is designed to provide clearance of lev transactions within the banking system within three days. BISERA does not encompass transactions in foreign currency, however. So there are actually two ways transactions are cleared depending on the currency used.

To understand how transactions are recorded within the banking system we describe a series of examples. In each case the payer is Balkantourist and the payee is Balkan Air. What changes in each example is where these two firms hold their accounts and the currency used to complete the transaction. We use dollars to represent foreign currency.

*Payee and Payer at the Same Bank:* The simplest situation is when the payee and the payer have accounts at the same bank. In this circumstance it does not matter whether the payment is made in levs or in

foreign currency (dollars). Suppose that both Balkantourist and Balkan Air have accounts at United Bulgarian Bank (UBB). Balkantourist makes a payment to Balkan Air of 50,000 levs. Money must be deducted from the Balkantourist account and credited to the Balkan Air account. This transaction can be recorded on the T-account of UBB as in the first two entries:

UBB	
Balkantourist	- 50,000 levs
Balkan Air	+ 50,000 levs
Balkantourist	- \$2000
Balkan Air	+ \$2000

The responsibility for transferring these funds from one account to the other is totally the responsibility of UBB. No other bank is involved in this process.

As shown in the third and fourth entries in the T-account, exactly the same accounting procedure would be used if the payment between Balkantourist and Balkan Air had been made in dollars instead of levs (as long as both firms had dollar accounts at the bank.)

*Payee and Payer at Different Banks and Payment is Made in Levs:* When Balkantourist and Balkan Air have accounts at different banks, transaction clearance becomes more complicated. If the payments are made in levs, then the BISERA system is used and the banks utilize their settlement accounts at the BNB to clear the transaction. Suppose instead of banking at UBB, Balkan Air has an account at Mineral Bank.<sup>30</sup>

Since Balkantourist still has an account at UBB, the payment will still have to be made from this account. The transaction begins when Balkantourist gives UBB an instruction to make payment to Balkan Air. Under the BISERA system the account of Balkantourist is reduced by 50,000 levs and the UBB account at BNB is reduced by 50,000 levs. These entries should be made at the end of the first

UBB	
Dep.Acct.@ BNB	-50,000 lev
Balkantourist	-50,000 levs

day or UBB will be penalized. On the second day it is BNB's responsibility to make the next two entries. First, on its own balance sheet it

<sup>30</sup> There are several methods of clearing transactions under the BISERA system. We describe direct transfers. A detailed description of BISERA can be found in the operations manual.

records the corresponding entry to UBB's entry showing that UBB's account at the BNB has been reduced by 50,000 levs. Since Balkan Air has an account at Mineral Bank, the levs in UBB are transferred to Mineral Bank.

BNB	
UBB	-50,000 levs
Mineral Bank	+50,000 levs

Mineral Bank now records the increase in its account at the BNB and credits the account at Balkan Air.

MINERAL BANK	
Dep. Acct@BNB	+50,000 levs
Balkan Air	+50,000

The money has now been transferred from Balkantourist to Balkan Air. Under the BISERA system each stage takes no more than one day so the whole process should take no more than three days. When working properly this will be a great improvement over the previous system, where the process of clearing a transaction could be very lengthy.<sup>31</sup>

*Payee and Payer at Different Banks and Payment is Made in Foreign Currency:* When Balkantourist and Balkan Air have accounts at different banks and the payment is made in foreign currency, the BISERA system is not used. Instead of using their settlement accounts at the BNB the banks utilize accounts, correspondent balances, that they have with each other. Suppose for purposes of this example that Mineral Bank's dollar account at UBB is used to clear the transaction. When dollars are deducted from the Balkantourist account at UBB, UBB treats Mineral Bank as the payee and credits Mineral Bank with the payment.

UBB	
Balkantourist	- \$2000
Mineral Bank	+ \$2000

<sup>31</sup> It might be noted that this procedure is the opposite of the check clearing system used in the United States. In the United States the first entries are made at the bank receiving payment since the check is deposited by the payee.

From Mineral Bank's perspective its account at UBB is an asset, so the \$2000 addition to its account at UBB appears on the left hand side of its account. Mineral Bank then credits the \$2000 to Balkan Air. The T-account for these transactions is:

MINERAL BANK	
Deposit Acct. @UBB + \$2000	Balkan Air + \$2000

Once Balkan Air has its account credited with \$2000, the transaction is completed.

## A Money Supply Formula for Bulgaria

The money supply in Bulgaria is determined by the interaction of the commercial banks and the BNB. The process is essentially the same as any country that uses a reserve system. Once a commercial bank acquires reserves, the bank can loan this money to nonfinancial borrowers and create additional deposits at the bank. This adds to the money supply. A description of how additional bank reserves will cause the money supply to grow can be found in any standard money and banking textbook.

Our purpose here is to describe the special features of the Bulgaria banking system and show how these features alter the way in which the money supply is determined. There are three significant ways in which the Bulgarian model differs from the model in the United States. (1) Foreign currency deposits have a much larger role in the money supply. (2) Credit ceilings, which limit the amount of loans to economic activity, have been imposed by the BNB. (3) Only reserve deposits at the BNB can be used to satisfy the reserve requirements. In the United States cash in the vault of the commercial banks is also used to satisfy the reserve requirement.<sup>32</sup>

To derive a formula for the money supply in Bulgaria, it is easiest if we envision a formula for broad money (M2). Let  $D$  describe the total level of deposits. This would include all demand deposits, savings deposits and time deposits. The total money supply would then be:

$$M2 = C_p + D \quad (1)$$

<sup>32</sup> Coates (1992) also develops a similar money supply formula but does not attempt to bring it fully in line with present Bulgarian conditions. Coates then provides an excellent discussion of the problems of implementing monetary policy in the present environment.

where  $C_p$  is the amount of cash in the hands of the public. Consistent with the definition of broad money used by the BNB this cash holding does not include foreign currency that circulates in the economy.  $D$ , on the other hand, does include foreign currency balances.

In the standard construction of the money supply formula the central bank controls movements of the money supply by control over the monetary base (MB). The monetary base is the sum of two liabilities of the central bank: cash (C) and commercial bank deposits at the central bank ( $D_c$ ). The central bank controls the monetary base and the commercial banks determine whether they wish to hold cash or deposits at the central bank. In other words, the commercial banks are free to deposit or withdraw cash from the central bank at any time. From the definition of the monetary base we have:

$$MB = C + D_c \quad (2)$$

In the Bulgarian context there are two special aspects to the commercial bank's decision to hold cash or deposits at the BNB. First, vault cash is not included in the calculation of bank reserves so banks will want to minimize the amount of vault cash they hold. Secondly, reserve accounts and settlement (clearing balance) accounts at the BNB are separate so banks will have to hold additional deposits, over and above their reserve accounts, to process settlements. For this reason we will distinguish between reserve deposits at the BNB ( $D_r$ ) and deposits held for settlement purposes ( $D_s$ ).<sup>33</sup> The sum is total deposits at the BNB.

$$D_c = D_r + D_s \quad (3)$$

All cash issued by the BNB will also be cash in the hands of the public ( $C_p$ ) or be vault cash ( $C_v$ ) held by commercial banks. So

$$C = C_p + C_v \quad (4)$$

Let  $r$  represent the percentage of their demand, savings and time deposits that banks are required to keep in their reserve accounts at the BNB. Then the relationship between their reserve balances,  $D_r$ , and total deposits,  $D$ , will be:

$$D_r = r D \quad (5)$$

If equation (5) is substituted into equation (3) and then equations (3) and (4) are substituted into equation (2), we have

$$MB = C_p + C_v + r D + D_s \quad (6)$$

If we factor  $D$  from the left side of equation (6), we obtain

<sup>33</sup> The separation is not absolute since banks can overdraft their settlement accounts up to the limit of their reserves. (Filipov, 1992)

$$MB = [cp + cv + r + ds] D \quad (7),$$

where  $cp = Cp/D$ ,  $cv = Cv/D$  and  $ds = Ds/D$ . Each of these ratios is assumed to be very stable over time and each has an important role to play in the money supply formula.  $cp$ , the ratio of cash held by the public to deposits held by the public, was discussed in Chapter III, pages 19 and 20. As was mentioned there, this ratio appears to be very high when compared to a similar ratio in the United States. Normally it is assumed that there is some desired level of this ratio and that it is reasonably constant over time. As we have seen, however, in Bulgaria it has been rising dramatically in recent months.

The ratios,  $cv$  and  $ds$ , relate to bank behavior. Banks need to retain cash in the vault to service the demands of their depositors for withdrawals. Banks also need to keep minimum balances in their settlement accounts at the BNB so that transactions can be processed through the BISERA system. Since banks earn low interest on the settlement accounts and no interest on the cash in their vaults, they will want to keep these balances at low levels so they can loan out as much money as they can at higher interest rates.

The level of deposits,  $D$ , can be found by rewriting equation (7):

$$D = MB/[cp + cv + r + ds] \quad (8).$$

The total money supply can then be found by noting that equation (1) can be adjusted

$$M2 = [Cp/D] D + D = (cp + 1) D \quad (9),$$

so that the money supply formula is

$$M2 = MB [cp + 1]/[cp + cv + r + ds] \quad (10).$$

With small modifications this formula is the same as the one used in the United States. The main additions reflect the regulations regarding bank reserves. Since only deposits in reserve accounts at the BNB can be used to satisfy the requirement, vault cash and settlement accounts must be added to the formula.

Equation (10) illustrates that as long as there are certain regularities in these ratios and the reserve requirement remains constant, the money supply can be controlled by movements of the monetary base. Even if these ratios change in a predictable way, the monetary authorities can compensate by adjusting the monetary base. Since  $cp$  has been increasing steadily in Bulgaria, this will have an effect on the money supply. Fortunately the effect is contractionary.<sup>34</sup> As  $cp$  increases, the

<sup>34</sup> This can be seen by taking the derivative of  $M2$  with respect to  $cp$  in equation (10). As long as  $cv + r + ds < 1$ , this derivative will be negative.

money supply declines. This has made it easier for the monetary authorities to control growth in the money supply.<sup>35</sup>

As mentioned above, regulations regarding bank reserves are only one of three elements which may result in modification of the basic money supply formula. Foreign currency deposits and credit ceilings are two others, although their influence on the money supply is less direct.

One might suppose that foreign currency deposits affect the size of the money supply when deposited in commercial bank accounts. This is not the case, however, as banks are required to keep the same bank reserves at the BNB whether the deposits are in levs or foreign currency. So the money supply will not change if lev accounts are converted into foreign currency. If, on the other hand, foreign currency is deposited at a commercial bank and the commercial bank in turn deposits this money at the BNB, then the monetary base will expand. From formula (10) it can be seen that expansions of the monetary base will cause multiple expansions of the money supply. Theoretically, the BNB can take actions to offset these changes in the monetary base and prevent the money supply from growing. As the discussion in the next chapter on BNB alternatives will show, in fact their ability to act is constrained. Recently, a new regulation was promulgated which phases out the use of foreign currency deposits as bank reserves. (BNB News Bulletin, No. 2, 1993) At the beginning of 1994 foreign currency deposits will no longer be counted as reserves, bringing this problem for the BNB to an end.

Credit ceilings also have an impact on the money supply, but their impact is more indirect than is generally supposed. Given formula (10) credit ceilings will influence the money supply only if they affect one of the variables on the right side of the equation. By restricting the quantity of loans that banks can make for economic activity, the ceilings force banks to reallocate their portfolio of assets. If the only assets that banks could hold were loans, cash in the vault and deposits at the BNB, then the credit ceilings would be effective in restraining the money supply. This can be illustrated in the following simplified balance sheet:

<sup>35</sup> Shifts in  $cp$  may reflect other changes in the economy which can make life more difficult for the monetary authorities. As preferences change for different types of money, velocity changes. This can make the relationship between money growth and inflation more unpredictable. Under these circumstances, monitoring money growth may not be a sufficient guide to good policy decisions. Velocity changes will also have to be understood.

Bulgarian Bank

Reserve Account @ BNB Settlement Account @ BNB Cash in vault Loans for Economic Activity	Demand Deposits Savings Deposits Time Deposits ----- Net worth/Capital
---	--

Under these circumstances where asset choices are so limited, restrictions on loans for economic activity must increase one of the other categories of assets. This would effectively raise one or more of the ratios in the denominator on the right side of equation (10). An increase in these ratios would lower the money supply.

This may have been a reasonable description of the banking system immediately after the transition began. Now, however, there are more options for banks. The most important is the growth of the government securities market. The government continues to run deficits in its budget which are partially financed by borrowing directly from the BNB and partially by issuing government securities. The banks have been important buyers of government securities which are an increasingly significant part of bank portfolios. With government securities in the portfolio, the simplified balance sheet would then be:

Bulgarian Bank

Reserve Account @ BNB Settlement Account @ BNB Cash in Vault Government Securities Loans for Economic Activity	Demand Deposits Savings Deposits Time Deposits ----- Net worth/Capital
--	--

With government securities added to the possible assets of the commercial banks, the ratios in the denominator of the money supply formula need not rise. Under these circumstances, the money supply need not be affected by the credit controls.<sup>36</sup>

<sup>36</sup> An important difference between the money supply formula developed here and the formula in Coates (1992) is the addition of an excess reserves term in the denominator of the Coates' formula. Coates argues that credit ceilings will give banks few options to make loans and excess reserves will increase as a result. The increase in excess reserves will increase the denominator of the money multiplier and the money supply will be smaller. We argue that banks have a more attractive option than increasing excess reserves - purchasing government securities. If the banks buy securities, the money supply is unaffected by the ceilings.

Under the present arrangements banks may choose to hold more reserves than required, but not because of the credit ceilings. The BNB pays interest on deposits. The longer the term, the higher the interest rate paid. If a commercial bank is willing to deposit funds for a year, the

What the credit ceilings do is to reallocate credit away from the controlled area of „loans to economic activity“ and towards other forms of lending like government securities. In the process, credit ceilings may also be influencing the price of (interest paid on) government securities. Since banks cannot make other loans, the supply of bank funds available for purchasing government securities is larger than it otherwise would be, leading to lower interest rates.

The credit ceilings also create more direct competition within the area controlled. Thus lending to state enterprises and lending to the private sector are in direct competition with each other. Since state enterprise loans carry lower risk for the banks than private sector loans, the credit ceilings further squeeze the availability of credit to the private sector.

If credit ceilings are to be used effectively as a means of controlling the money supply, the banks assets which are controlled must be more carefully defined. If the controls encompass all of bank assets except BNB deposits and cash in the vault, then they can control the growth in the money supply. As the ceilings are presently defined their only outcome is to deny credit to certain areas of the economy, including the private sector.

There are two indirect channels through which the credit ceilings can have an impact. The first involves the use of Lombard credits. As we will see below, banks can borrow from the BNB using government securities as collateral. These are called Lombard loans. When banks borrow from the BNB, this increases the monetary base and the money supply. If banks are prevented from increasing their loans to economic activity, they may not wish to take out Lombard loans. Thus the credit ceilings may discourage growth of the monetary base. This is a very indirect means of controlling monetary growth. More direct controls on commercial bank borrowing from the BNB would be a more effective means of controlling monetary growth.

Credit ceilings also indirectly influence the money supply through a second channel. The penalties for violating the ceilings do have an impact on the money supply. If banks exceed their ceiling, they must „set aside additional non-interest bearing reserves in the amount of the excess over the credit ceiling, but not more than 8 percentage points above the minimum reserve requirements for the banks' outside funds.“ (BNB, 1992a, p. 41) When banks violate the credit ceiling they

rate is 48% (as of 1 March 1993). This is only 3% below the central bank rate at which banks can borrow from the BNB. Holding these excess reserves will, as in the Coates formula, will reduce the money supply.

must add one lev to their reserves for every lev in additional lending (up to a limit). This effectively raises  $r$  in the denominator of the money supply formula and thus lowers the money supply.

Since the reserve requirement,  $r$ , is set at 7%, the provision that the additional requirements be limited to 8% means that for any bank the effective reserve requirement is between 7 and 15%. Suppose a bank is at its credit ceiling but desires to make additional loans with 100,000 levs that it has in accounts at the BNB. If it makes loans of 50,000 levs at interest rates of 66%, the bank must set aside 50,000 levs in a non-interest bearing account at the BNB. The effective interest rate for the bank on the 100,000 levs is only 33%. If 33% is more than the interest on the account at the BNB, then the bank may still want to make the loan.

The set aside would be smaller and the effective interest rate the bank received would be larger if the bank reaches its maximum reserve requirement of 15%. If only 20,000 levs needed to be set aside before the bank reached its maximum, then the bank could loan out 80,000 levs and the effective interest rate would be 52.8%.

The advantage of this system from the perspective of bank regulation is that the credit ceilings automatically impose higher reserve requirements on banks that have portfolios with a larger share of risky assets.

Another alternative for the bank with an extra 100,000 levs in deposits at the BNB is to raise its credit ceiling by purchasing rights to do so on the market. There is an active market now where banks buy and sell credit ceilings. If a bank is not using its full allotment, the bank can sell some of its allotment to another bank. The price is quoted in interest charges. For example, the bank with an extra 100,000 levs to loan can purchase a 100,000 lev increase in its ceiling from another bank. If the interest charge is 6%, then the net interest that the bank would earn on the new loan at 66% is 60%. This would be much higher than the net 33% interest that the bank would earn by violating the credit ceiling and putting additional reserves aside.<sup>37</sup>

A bank with an extra 100,000 levs might also choose not to make a loan to „economic activity“ at all. If the cost of buying credit ceilings is too high, the bank might decide to purchase government bonds. This

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<sup>37</sup> Different sources have describe vastly different rates in the credit ceiling market. In an efficient market, under tight money conditions, we would expect that the interest rate charged in the ceilings market would be close to one-half the interest rate on loans to economic activity. The rate appears to be well below this level.

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would certainly be a better strategy for the bank if the net interest rate on a loan after buying the higher ceiling was lower than the rate on government bonds. Even if the interest rate on government bonds was somewhat lower than the net interest on loans to „economic activity“, the government bonds might be preferred because they carry less risk.

Thus, the impact of the credit ceilings on the money supply formula is indirect. As long as less expensive alternatives are available, banks will not violate the credit ceilings; reserve requirements will not rise and the money supply will not be affected by the credit ceilings.<sup>38</sup>

We have seen that both credit ceilings and foreign currency deposits have a limited impact on the size of the money supply. Of the three elements that have been analyzed in this chapter, only manipulation of the monetary base has proven to be an effective mechanism for adjusting money supply growth. The degree of control which the BNB has over the monetary base will determine how well it can control the money supply.

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<sup>38</sup> The BNB raised the ceilings by 29% during 1992. (BNB News Bulletin, No. 19, 1992) Calculations differ as to the effectiveness of the ceilings. The BNB reported that during the first half of 1992 credit slightly exceeded the ceilings. This was attributed to special conditions surrounding Yambol Bank, which had failed. (BNB, 1992a, p.42) The AECD reported that while credit ceilings increased in the first three quarters of 1992 by 21% actual credit volume grew by 36.5%. The high growth rate of credit was partly attribute to poor enforcement of the ceilings (AECD, Business Survey III Quarter 1992). If the ceilings are violated, but no sanctions are imposed, this will have no effect on the money supply since reserve requirements will not be forced to rise. On the other hand, if reserve requirement are not enforced then there would be no control on the size of the money supply.

## Monetary Policy

In Chapter V we saw that the money supply is determined by the money supply formula. Analysis of the formulation revealed that the money supply is most directly affected by changes in the monetary base. One central issue for the implementation of monetary policy in Bulgaria, then, is how well the BNB is able to control the monetary base. Many of the instruments that are used to control the monetary base in developed economies depend on the existence of financial markets which did not exist in Bulgaria before the transition. As financial markets expand, the BNB will have more possible instruments from which to choose.<sup>39</sup>

We will argue that while the BNB can exercise considerable control over the monetary base through changes in its refinancing policies and more recently in its open market operations, there are other activities over which the BNB has less control. These also influence the monetary base. The most important of these other activities are the direct financing of government deficits and BNB's intervention in foreign currency markets. First, we describe the impact of government debt financing and foreign currency operations. Then we analyze how much control the BNB can retain by employing refinancing and open market operations to offset some of the effects of the other activities.<sup>40</sup>

A second important element of monetary policy is interest rates. The BNB has tremendous influence on interest rate charged for (Lombard) loans extended to commercial banks and on direct loans to the Ministry of Finance. In economies with well developed capital markets there is a close connection between money supply growth rates and interest rates. For example, in the United States the Federal Reserve influences interest rates by buying and selling government securities. In Bulgaria the linkage between interest rates and monetary growth rates is not as

<sup>39</sup> Filipov (1992) describes the instruments that the BNB is presently using to carry out monetary policy. He also provides a useful history of when many of these instruments were first utilized.

<sup>40</sup> For an analysis of the effectiveness of monetary policy at the beginning of 1992, see N. Georgiev and N. Gospodiov (1992).

close. After discussing various actions which influence the money supply, we discuss the impact that interest rates have on economic activity.

### Direct Financing of Government Debt

The BNB helps the government finance its debt by making direct loans to government. Sometimes analysts refer to this as „printing money“ to cover government deficits. In actual fact the process is a little more complicated than this, but the effect is indeed much the same as it would be if the BNB had a printing press and simply printed more levs to pay government workers. When the government borrows money from the BNB, this increases the size of the monetary base, and as we have seen, these increases in the monetary base cause the money supply to expand.

These changes can be depicted on T-accounts for the BNB and the government. The government's loan from the BNB will appear as a liability of the government and an asset of the BNB. In return the government receives money placed in its account at the BNB.

Government	
Deposit @ BNB +1,000,000 levs	Loan from BNB +1,000,000 levs

BNB	
Loan to gov't +1,000,000 levs	Government +1,000,000 levs

At this point there has been no change in the money supply, but the government has not made any expenditures yet. If the government makes a payment for office equipment, then the government's account at the BNB will fall as cash is withdrawn to make a payment to the store. This will create a second set of entries.

Government	
Office Equipment +1,000,000 levs Deposit @ BNB -1,000,000 levs	

BNB	
	Government -1,000,000 levs Cash +1,000,000 levs

At this point the monetary base increases because cash outstanding is part of the monetary base. If the monetary base increases, the money supply will increase. Thus, the government's decision to borrow money from the BNB to pay for office equipment causes the money supply to expand.

The BNB has limited control over the level of direct government borrowing. Rather, the Parliament sets an annual limit for direct government borrowing. Even when the government has needs which exceed this amount, the BNB has had difficulty in controlling the level of credit it eventually extends. If the BNB wants to control the level of the money supply, it must use other tools to offset the effects of government borrowing on the monetary base.

## Foreign Currency Operations of the BNB

The BNB has been active in the foreign currency markets trying to smooth the exchange rate movements of the lev. While Bulgaria does not have a fixed exchange rate, the BNB has intervened in the market so that movements in the lev are less dramatic than they otherwise would be. Over time this has caused considerable fluctuations in the amount of foreign currency reserves held by the BNB.

When the BNB enters the foreign currency market, it is buying or selling foreign currency, but it is also buying or selling levs. For example, if the BNB buys U.S. dollars, it pays for these dollars in levs. When it pays in levs, the BNB increases the monetary base, causing the money supply to increase. This can be seen on the T-account of the BNB.

BNB	
Foreign Currency Reserves +\$10,000	Cash + 260,000 levs

The increase in cash increases the monetary base and the money supply.

Conversely, foreign currency transactions can also reduce the money supply. If the BNB decides to sell dollars, then the monetary base will shrink. The problem here is that the desire to smooth currency fluctuations will have an influence on the money supply, and the resulting change in the money supply may not be desirable from the perspective of the BNB. The BNB then needs to offset these changes using another monetary policy tool.

## Refinancing

Refinancing is commercial bank borrowing from the BNB.<sup>41</sup> It is the BNB's most important discretionary tool. Refinancing takes a variety of forms under a variety of conditions. In each case, however, the basic accounting and the effect on the money supply is the same. An increase in refinancing increases the monetary base. This is shown in the following T-accounts, in which UBB's deposit at BNB adds to the monetary base.

UBB	
Dep. @ BNB + 10,000 levs	Loan from BNB + 10,000 levs

BNB	
Loan to UBB + 10,000 levs	UBB + 10,000 levs

Over time there has been a shift from early forms of refinancing such as moratorium, conversion and other deposits towards discount loans, interbank deposits which are sold at auction, and Lombard loans.<sup>42</sup>

**Discount loans:** These are loans made from the BNB to commercial banks. Bills of exchange and promissory notes are used as collateral to secure these loans. In many ways these are similar to discount loans made in the United States. By increasing the monetary base they enable banks to expand the amount of loans they make.

**Interbank deposit auction:** The interbank deposit auction, an important tool of refinancing, has no direct parallel in the United States. The BNB announces the availability of loans for which the banks bid. The banks willing to offer the highest interest rates obtain the loans. Because these loans are auctioned, the interest rates are market-determined. Movements in these rates thus give a clue as to the tightness of credit in the economy.

The interbank deposit auction should not be confused with the in-

<sup>41</sup> This is very different from the way this term is used in the United States. In the U.S. refinancing usually refers to the refinancing of a loan (i.e. mortgage) where the borrower pays off the original loan and then takes out another.

<sup>42</sup> Moratorium and conversion were loans made for specific purposes. Moratorium is carry over from an earlier attempt to refinance banks to allow them to extinguish non-performing loans. Conversion was money for military conversion. Direct refinancing were deposits (i.e. loans) placed with banks who had specific needs.

terbank money market in which loans are made among banks. (See p. 31.) From the viewpoint of the banks borrowing money, it does not matter greatly whether the money comes from the another bank or the BNB. In either case the bank acquires deposits at the BNB which can then be used to make loans. For this reason the rates in the two markets should be the same for loans of the same duration.<sup>43</sup> However, trades on the interbank money market do differ from the interbank deposit auction in that there is no effect on the money supply. Deposits are only moved from one bank to another.

**Lombard loans:** Refinancing loans made with specific forms of collateral are known as Lombard loans. The most important collateral for Lombard loans is government securities. Banks can borrow up to 60% of their government securities holdings. This can be very profitable for the banks when there is a difference between the interest rates on government securities and on Lombard loans. The interest rate on Lombard loans is equal to the central bank base rate of interest. The interest rate on government bonds is determined in the government securities market. When the rate on government bonds rises above the base rate, banks can buy government bonds; receive the high rate on these bonds; take out Lombard loans at the lower rate; and make money on the difference. The availability of Lombard loans, therefore, increases the bank demand for government securities.

This increased demand for government securities raises the price and lowers the interest rate on government securities. This in turn lowers the cost to the government of borrowing to finance its debt. Thus the availability of Lombard loans acts as a subsidy provided by the BNB to the government. While the sale of government bonds to the commercial banks does not increase the money supply, the combination of bond sales to the banks and the refinancing of the banks through Lombard loans does increase the monetary base (since, as shown above, refinancing increases the base.)

If Lombard loans are easily available and interest rates on government bonds remain above the base rate, sales of government securities to commercial banks has nearly the same effect on the money supply as direct financing of the government deficits by the BNB. The major difference is the 60% limitation on Lombard loan borrowing.

Presently, there is an attempt to convert state enterprise debt into government debt. The government debt would then replace state enter-

<sup>43</sup> In fact these two rates have not been equal. The money market rate has been below the auction rate. (See BNB News Bulletin 2, 1993 for a recent description.) Georgiev and Gospodinov (1992) argue that this is due to the greater flexibility in defining terms for the loan in the money market.

prise debt on banks' balance sheets. This process, which would relieve some of the pressure on state enterprises, does not in and of itself have any effect on the money supply. However, if this debt is used as collateral for Lombard loans, the money supply will increase.

By varying the amount of refinancing the BNB can influence the monetary base. Sometimes these operations can be used to offset the impact on the money supply of other activities such as direct government borrowing. At other times adjustments in the amount of refinancing can be used to set a new course for monetary policy.

## Open Market Operations

In 1993 the BNB began to engage in open market operations. This became possible as both a primary and secondary market for government securities developed. Having a good secondary market in government securities should also make it easier for the government to sell government bonds on the primary market since economic agents are always willing to hold a lower interest paying asset if it is more liquid.

The impact of open market operations is to change the monetary base. For example, if the BNB sells government securities and these securities are purchased by UBB, then the T-accounts will be as follows:

UBB	
Dep @ BNB -100,000 levs	
Government Securities +100,000 levs	
BNB	
Government Securities -100,000 levs	UBB -100,000 levs

This transaction reduces UBB's deposits at BNB, which lowers the monetary base.

In the United States this is the principle mechanism for controlling the monetary base. While open market operations may eventually replace refinancing as a major tool, the nascent market for government securities is still too fragile for open market operations to bear the full weight of monetary policy.

## Interest Rate Policy

Another tool which the BNB can use to influence the flow of credit into the economy is adjustment of interest rates. Through changes in the central bank base rate, the BNB can influence the entire structure of interest rates. In February 1991 the basic interest rate jumped to 45% from 4.5% at the beginning of January 1991 and 15% on January 15th. From September 1991 until June 1992 the rate was 54%. In March 1993 it was 51%.

The sharp increase in the base rate in February 1991 reflected the inflationary environment which was created when prices were released. After the initial surge in prices in the spring of 1991, it was unclear for some time what the inflation rate was. During 1992 the inflation rate continued to vary from month to month, but predictions made in the middle of 1992 that the inflation rate of retail prices would be about 80% turned out to be surprisingly accurate. (See OECD, 1992)

While nominal interest rates throughout this period appear quite high, real interest rates have been negative. Nominal interest rates on time deposits in banks have been below the base rate and in real terms even more negative. Negative real interest rates discourage savings and encourage consumption.

On the other side of the savings and investment nexus, the high nominal rates and the negative real rates have had some perverse effects. Interest rates should function as a price which rations the available amount of credit. If rates are high, some borrowers should be discouraged and not seek loans. Unfortunately, the high nominal rates created serious difficulties for many state enterprises which had large debts before the nominal rates were increased. When the nominal rates suddenly increased, this unanticipated change in their debt burden placed these enterprises in a very difficult position. Even potentially viable enterprises have found it difficult to survive. Rather than place these loans in default, banks continued to loan to these enterprises so that they could pay the higher interest on these loans. The higher interest rates had the strange effect of increasing the amount of loans the banks had to advance to enterprises so that the enterprises could pay the interest back to the banks. (OECD, 1992)

High interest rates have not discouraged state enterprises from borrowing, but private business has seen the high rates as onerous. This along with the higher risks banks face in loaning to the private sector has inhibited the expansion of loans to this sector.

Thus high nominal interest rates have been important in drawing savings into the banks, but they have not been effective in rationing

credit. In particular, the allocation of credit to the private sector has been adversely affected by the high nominal rates.

## General Policy Trends

With the development of open market operations, the BNB now has a set of tools which should make it possible to exercise considerable control over the money supply. Control over the monetary base should be further enhanced when at the end of 1993 foreign currency can no longer be used by commercial banks to satisfy reserves requirements.<sup>44</sup> The major problem the BNB faces in controlling the money supply is the effect of direct government borrowing. The large government deficits continue to be financed by „printing money.“ The pressure to assist in the financing of government deficits continues to raise the monetary base and the money supply. Until this pressure subsides, it will be difficult for the BNB to gain control over monetary growth.

The position of the International Monetary Fund (IMF) as regards monetary policy is described by Coates (1992). The IMF recognizes many of these difficulties and has established targets for government deficits. The hope is that if the government can keep its borrowing within certain limits, growth of the money supply can be reduced over time so that the inflation can be reduced.

Another aspect of monetary policy is the high nominal rates which continue to be a controversial aspect of BNB policy. While the high nominal rates attract funds into bank deposits which in turn can be disbursed to expand investment in the economy, most of these funds continue to be used to finance deficits of the government and state enterprises of questionable viability in a market economy.

Finally, there is the problem of good statistics. It is difficult to carry out a successful monetary policy if you do not know what conditions the economy faces. New accounting procedures are now being implemented which should help clarify the position of the banks, but it will take time before these new accounting procedures are fully understood and implemented. National accounting figures are still weak also and do not measure the true size of the private sector. These weaknesses in important statistical measures make it very difficult to carry out a reasonable monetary policy.

<sup>44</sup> The BNB cannot directly control the amount of foreign currency that can be deposited as required reserves. Thus the possibility always existed that bank reserves could rise due to greater foreign currency deposits. When reserves are low, the BNB can exercise more direct controls.

## Conclusion

To appreciate the progress made in the development of Bulgaria's financial system, it is important to remember the starting point. Levs did not necessarily buy goods. Banking was monolithic. Secondary markets for financial instruments did not exist. It is from this starting position that Bulgaria's efforts must be measured.

Since the transition to a market economy began, pressing macroeconomic problems have dominated the attention of policy maker—controlling the growth of the money supply, curbing inflation, financing government debt, establishing a convertible currency. But dealing with these issues required first a new legal structure within which solutions could be sought. Two fundamental legislative acts, the Law on the Bulgarian National Bank and the Law on Banks and Credit Activity, set the basic structural framework for a two-tiered system of Bulgarian banking. In addition to commercial bank regulation and currency issuance, the Managing Board of the Bulgarian National Bank was given responsibility for managing the supply of money and credit for the nation.

Mirroring the concern of policy makers, we have taken an approach which emphasizes the macroeconomic rather than the microeconomic aspects of the development of the Bulgarian financial system.

Because controlling the growth of the money supply is an important tool for controlling inflation, we began by discussing how the money supply should be defined. This is not a straight-forward problem in Bulgaria since how different financial assets are being used is undergoing change. We suggest that the definitions of money be revised to more clearly reflect the actual liquidity differences among assets. More precise measurement of the money supply should support better decision-making about monetary policy.

A money supply formula was derived, which revealed that the money supply is most directly affected by changes in the monetary base. The central issue for the implementation of monetary policy in Bulgaria is how well the BNB is able to manage the monetary base. We found that the BNB does exercise considerable control through changes in its refinancing policies and more recently through its open market operations.

We have argued that credit ceilings would be more effective in controlling the growth of the money supply if the definition of the types of credit controlled is expanded to include government securities. Major difficulties in controlling the growth rate of the money supply persist, principally because large government deficits hinder attempts to control money supply growth. Nevertheless, the BNB's progress has been significant in designing basic tools to control the money supply and the aggregate level of credit.

Many of the remaining institutional weaknesses, however, are more microeconomic. At the beginning of this essay we cited Stiglitz's (1992) list of functions that a financial system in a market economy must perform. Now that we have described the Bulgarian banking system it is useful to return to this list in order to assess how much progress has been made in each of the functional areas Stiglitz describes. The difficulties at the microeconomic level become more evident as we review this list.

### 1. *Management of the medium of exchange.*

Considerable progress has been made over the past two years in management of the medium of exchange. The lev has been established as a viable internal currency used as a means of payment. The new BISERA transaction payment system should reduce the time and improve the accuracy of transactions payments among banks.

### 2. *Transferring funds from savers to investors in new economic production.*

### 3. *Pooling small amounts of savings so that larger projects can be undertaken.*

The banking system at present performs nearly all financial intermediation.<sup>45</sup> With the high nominal interest rates paid on bank deposits, the banks have been effective in drawing savings into accounts that might otherwise have been stashed in private households. In this way the banking system has functioned to pool small amounts of savings.

More problematic has been the employment of these funds in new economic production. Unfortunately, the government and the state enterprise sector continue to make such large demands on bank funds that little remains for the development of the private sector. Because almost no private financial intermediation has developed as competition, borrowers who need large sums to start production projects have little recourse other than the banks. Clearly methods must be found to encourage banks to more fully participate in the development of the private

<sup>45</sup> The other major intermediary is the state insurance fund.

sector. Partial loan guarantees by the government have been suggested.

4. *Choosing among projects so that the most productive projects receive the most support.*

5. *Monitoring the use of funds so that they are used in the intended way.*

These two functions are closely tied. The difficulties that currently hinder their effective performance are identical. Some economists have referred to the early period of transition as the „noisy period“. (Tirole, 1991). During this period it is difficult to evaluate risks because there is so much uncertainty about the future course of the economy. Added to this is the lack of expertise and experience of economic agents in their new roles. Inexperienced or untrained loan officers make evaluation of projects difficult. This same lack of knowledge precludes banks from properly monitoring projects. The new entrepreneurs seeking loans are similarly inexperienced. Many lack the skill to write a basic document like a business plan. Even experienced Western financial loan officers have difficulty making loans and monitoring their success in this environment.

6. *Enforcement of loan contracts so that the loans are repaid.*

7. *Definition of how risks will be shared among borrowers and lenders when new economic projects are undertaken.*

Bankruptcy laws define how creditors will be compensated when a debtor goes into default. The absence of a bankruptcy law in Bulgaria puts lenders in a very precarious situation in the event of default. While the banking act states that banks can acquire collateralized assets when loans go into default, (Law on Banks and Credit Activity, Article 36) without a bankruptcy law, it is not clear what the bank's position is relative to other creditors. Adoption of a bankruptcy law would greatly alleviate non-performance in this functional area.

8. *Lowering of risk by creating methods for diversification of investment risks.*

There has been little diversification of risk in private sector investment. The inability to obtain credit from the banks has forced most private enterprises to finance their activities out of their own savings. This has made it difficult to start even medium-sized private production activities. It also means that there has been almost no opportunity to diversify risks of private market activity.

Alternative means for pooling risks would be to develop non-bank financial intermediaries. These institutions are difficult to establish because savers must have confidence in the management before they will be willing to trust others to invest their savings. These institutions

are just beginning to develop.<sup>46</sup>

The advantage of such institutions would be their independence of any history of state involvement. As private corporations, their survival would depend on their ability to make good investment decisions. Such institutions could fill an important gap by supporting the growth of the private sector.

One important unanswered question is how the present growth of the small-scale private sector is being financed. This is almost entirely in trade and distribution. In some instances families have pooled funds to start a small business, but this probably explains only a fraction of what is being observed. What is not much in evidence is the ability to pool relatively larger sums to begin productive activity.

For an economy to grow, effective mechanisms must be established which channel savings to investment activities. Thus far these mechanisms are working very poorly in Bulgaria. On the other hand, substantial progress has been made in defining a legal structure for banking, creating an internal medium of exchange, and designing monetary policy tools. Judged by the Stiglitz criteria it is clear that there are many weaknesses in the functioning of the financial system in Bulgaria, especially at the microeconomic level. Judged from its starting place, it is clear that Bulgaria has made much progress.

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<sup>46</sup> One of the first is the Razvitie [Development] Investment Fund established in May 1993. (Bulgarian Economic Review, May 7-20, 1993, p. 10)

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**ATTACHMENT TWO**

CREDIT CEILINGS AND MONETARY POLICY IN BULGARIA\*

by

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## CREDIT CEILINGS AND MONETARY POLICY IN BULGARIA

Central banks are given the responsibility for controlling the money supply. By directing money supply growth, central banks play an essential role in controlling inflation. Since the early days of the transition to a market economy, credit ceilings have been utilized by the Bulgarian National Bank (BNB) to limit the growth of money and credit in the economy. We argue here that the changing institutional structure of financial markets in Bulgaria is reducing the effectiveness of credit ceilings. Alternative methods must be identified. With the increasing stability of important economic relationships, it is now possible for policy-makers to turn their attention away from credit ceilings and more towards market-oriented tools for monetary control. In particular, we argue that the money supply can be more successfully controlled by increasing reserve requirements for commercial banks and reducing the level of refinancing.

In the next section we develop a modified version of the standard money supply formula which takes into account the special institutional features of the Bulgarian banking system. We then show how credit ceilings are no longer an effective means of limiting monetary growth. Section II describes the present situation where important variables in the money supply formula are becoming more stable and predictable in their movements. This makes it possible for market-oriented tools to be employed in controlling the money supply. Section III analyzes how large government deficits still make limiting money growth difficult. More limited refinancing and higher reserve requirements, however, can still be used to maintain control of the money supply.

### **I. A Money Supply Formula for Bulgaria**

The money supply in Bulgaria is determined by the interaction of the commercial banks and the BNB. The process is essentially the same as any country that uses a reserve banking system. Once a commercial bank acquires reserves, the bank can loan this money to nonfinancial borrowers and create additional deposits at the bank. This adds to the money supply. A description of how additional bank reserves will cause the money supply to grow can be found in any standard money and banking textbook.

Our purpose here is to describe the special features of the Bulgaria banking system and show how these features alter the way in which the money supply is determined. There are three significant ways in which the Bulgarian model differs from the model in the United States. (1) Foreign currency deposits have a much larger role in the money supply. (2) Credit ceilings, which

limit the amount of loans to economic activity, have been imposed by the BNB. (3) Only reserve deposits at the BNE can be used to satisfy the reserve requirements. In the United States cash in the vault of the commercial banks is also used to satisfy the reserve requirement. Of these three, only the third requires that we alter the money supply formula. It will be seen that the presence of foreign currency deposits, under recently altered regulations, does not affect the size of the measurable money supply. The impact of credit ceilings will be discussed in the next section.

To derive a formula for the money supply in Bulgaria, it is easiest if we envision a formula for broad money (M2). Let D describe the total level of deposits at commercial banks. This would include all demand deposits, savings deposits, time deposits, foreign currency deposits and import and restricted deposits. Table 1 describes the movements in these variables from December 1991 through March 1993. The total money supply would then be the sum of currency (Cp) held by the public and these deposits or:

$$(1) \quad M2 = Cp + D.$$

Consistent with the definition of broad money used by the BNB this cash holding does not include foreign currency that circulates in the economy. D, on the other hand, does include foreign currency balances.

In the standard construction of the money supply formula the central bank controls movements of the money supply by control over the monetary base (MB). The monetary base is the sum of two liabilities of the central bank: cash (C) and commercial bank deposits at the central bank (Dc). The central bank controls the monetary base and the commercial banks determine whether they wish to hold cash or deposits at the central bank. In other words, the commercial banks are free to deposit or withdraw cash from the central bank at any time. From the definition of the monetary base we have:

$$(2) \quad MB = C + Dc$$

In the Bulgarian context there are two special aspects to the commercial bank's decision to hold cash or deposits at the BNB. First, vault cash is not included in the calculation of bank reserves so banks will want to minimize the amount of vault cash they hold. Secondly, reserve accounts and settlement (clearing balance) accounts at the BNB are separate so banks will have to

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Coates (1992) also develops a similar money supply formula but does not attempt to bring it fully in line with present Bulgarian conditions. Coates then provides an excellent discussion of the problems of implementing monetary policy in the present environment.

Table 1

**Quarterly Money Supply**  
(billions of levs)

	Dec 1991	March 1992	June 1992	Sept 1992	Dec 1992	March 1993
<b>Broad Money (M2)</b>	<b>111.61</b>	<b>123.05</b>	<b>128.57</b>	<b>146.88</b>	<b>167.50</b>	<b>175.95</b>
Cash	11.87	11.80	12.76	15.98	18.27	17.38
Demand Deposits	15.02	12.10	12.34	15.86	19.55	15.20
Time Deposits	25.87	37.33	44.61	52.84	59.41	72.88
Savings Deposits	15.95	14.63	14.71	15.68	20.21	20.27
Foreign Currency Deposits	39.31	43.91	41.08	43.26	47.25	46.24
Import and Restricted Deposits	3.59	3.29	3.08	3.27	3.59	3.99

Source: BNB News Bulletins.

hold additional deposits, over and above their reserve accounts, to process settlements. For this reason we will distinguish between reserve deposits at the BNB (Dr) and deposits held for settlement purposes (Ds).<sup>2</sup> Finally, banks may choose to hold some additional deposits at the BNB. These are called excess reserves (Dx).<sup>3</sup> The sum is total deposits at the BNB.

<sup>2</sup> The separation is not absolute since banks can overdraft their settlement accounts up to the limit of their reserves. (Filipov, 1992)

<sup>3</sup> Dx did not appear in the formula derived in Miller (1993). It does appear in Coates (1992). It is added here to clarify the difference between formulas in Coates and Miller.

$$(3) \quad D_c = D_r - D_s + D_x$$

All cash issued by the BNB will also be cash in the hands of the public ( $C_p$ ) or be vault cash ( $C_v$ ) held by commercial banks. So

$$(4) \quad C = C_p + C_v.$$

Let  $r$  represent the percentage of their deposits that banks are required to keep in their reserve accounts at the BNB. Then the relationship between their reserve balances,  $D_r$ , and total deposits,  $D$ , will be:

$$(5) \quad D_r = r D.$$

If equation (5) is substituted into equation (3) and then equations (3) and (4) are substituted into equation (2), we have

$$(6) \quad MB = C_p + C_v + r D + D_s + D_x.$$

If we factor  $D$  from the right side of equation (6), we obtain

$$(7) \quad MB = [c_p + c_v + r + d_s + d_x] D$$

where  $c_p = C_p/D$ ,  $r = D_r/D$ ,  $c_v = C_v/D$ ,  $d_s = D_s/D$  and  $d_x = D_x/D$ . To control the money supply by manipulating the monetary base, the movements of these ratios must be predictable. The stability of these ratios in Bulgaria is discussed in more detail in the next section.

The level of deposits,  $D$ , can be found by rewriting equation (7):

$$(8) \quad D = MB/[c_p + c_v + r + d_s + d_x]$$

The total money supply can then be found by noting that equation (1) can be adjusted:

$$(9) \quad M_2 = [C_p/D] D + D = (c_p + 1) D$$

After substitution of (8) into (9), the money supply formula is

$$(10) \quad M_2 = MB [c_p + 1]/[c_p + c_v + r + d_s + d_x]$$

where the money multiplier ratio is:

$$(11) \quad MM = [c_p + 1]/[c_p + c_v + r + d_s + d_x].$$

So the money supply formula can also be expressed as:

$$(12) \quad M_2 = MM \times MB$$

With small modifications this is the same as the money supply formula used in the United States. The main additions reflect the

regulations regarding bank reserves. Since only deposits in reserve accounts at the BNB can be used to satisfy the requirement, vault cash and settlement accounts must be added to the formula.

Foreign currency deposits at commercial banks do not affect the size of the money supply because the banks are required to keep the same bank reserves at the BNB whether the deposits are in levs or foreign currency. Money in one form is just exchanged for money in another form.

On the other hand, the potential for expansion of the money supply does exist. If foreign currency is deposited at a commercial bank and the commercial bank in turn deposits this money at the BNB, commercial bank accounts at the BNB, Dc, will be larger. From formula (10), it can be seen that such an expansion of the monetary base would cause a multiple expansion of the money supply. However, a new regulation phases out the use of foreign currency deposits as bank reserves. (BNB News Bulletin, No. 2, 1993) At the beginning of 1994 foreign currency deposits will no longer be counted as reserves, excluding these deposits from the monetary base. Thus the money supply will expand only if commercial banks are able to convert their foreign currency deposits at the BNB into lev deposits.<sup>1</sup>

Equation (10) illustrates that as long as the ratios which make up the money multiplier are stable, the money multiplier will be stable, and the money supply can be controlled by movements of the monetary base. Even if these ratios change in a predictable way, the monetary authorities can (theoretically) compensate by adjusting the monetary base.

## **II. Stability of the Money Multiplier and the Influence of Credit Ceilings**

The money multiplier (MM) is made up several ratios. The BNB can control or exert strong influence over some of these ratios, but not all. To carry out reasonably predictable monetary policy, those variables which cannot be controlled must be reasonably stable. We look at each ratio more closely.

cp is the ratio of cash held by the public to deposits held by the public. The public decides the relationship between the amount of cash versus deposits it wishes to hold. From Table I we can see

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<sup>1</sup> The money supply formula was constructed on the premise that commercial banks can freely move between cash and lev deposits at the BNB. These exchanges will have no affect on the money supply. In contrast, a policy which allows commercial banks to freely convert their deposits to levs and foreign currency would have a large effect.

some important trends. Demand deposits have been falling dramatically relative to cash holding. Over the same period, time deposits have been rising. Table 2 provides data on total deposits (D) and cash holdings of the public (Cp). Table 3 describes cp. From Table 3 it can be seen that the movements of demand deposits and time deposits are offsetting and cp is reasonably constant over the period from December 1991 and March 1993.

Unlike cp, the required reserve ratio, r, is controlled by the banking law and the BNB. By law, commercial banks must establish accounts at the BNB and keep 7% of the their total deposits in these reserve accounts. These reserve accounts at the BNB pay no interest. Because of its special status, the State Savings Bank is treated differently. Since it holds such a large share of all deposits, the 7% requirement was considered too small. A long-term credit has been negotiated between the State Savings Bank (SSB) and the BNB. This SSB credit is slowly being converted into a 7% reserve requirement. (Peicheva, 1993) See Table 2.

Thus, required reserves, Dr, are the sum of SSB credits and 7% of the bank deposits.  $[(.07) D_c + \text{SSB Credits}]$ . This can be compared with the actual level of deposits in reserve accounts in Table 2. At first the actual deposits were below the required level, suggesting lack of enforcement. More recently actual deposits exceed the requirements. Given that the "Law on Banking and Credit" was not passed until the spring of 1992, early enforcement problems are not surprising. As time passes, the actual and required amounts should merge.

Required reserves, Dr, (Line 4, Table 2) is then used to calculate the required reserve ratio, r, in Table 3. These calculations show that r is falling. But it is falling in a predictable way since the decline is due to the repayment of the SSB credit. This ratio will continue to decline until the SSB also has a 7% reserve requirement. As r declines, the money multiplier will rise, and the money supply will be become more sensitive to changes in the monetary base.

The ratios cv, ds, and dx, relate to bank behavior. cv is the ratio of vault cash to deposits. Banks need to retain cash in the vault to service the demands of their depositors for withdrawals. Since this money earns no interest and does not count towards the reserve requirement, banks have little incentive to hold large balances. As expected the amounts are small, and cv is reasonably stable.

ds is the ratio of settlement accounts to total deposits. Banks need to keep minimum balances in their settlement accounts at the BNB to make interbank transfers and to process transfers through the Bisera interbank payment system. Since banks earn low interest on the settlement accounts, they will want to keep these balances low.

Table 2

**Movements of Monetary Control Variables**  
(in billions of lev)

	Dec 1991	March 1992	June 1992	Sept. 1992	Dec. 1992	March 1993
Bank Deposits (Dc)	100.16	111.73	116.44	131.55	150.02	158.67
Currency (Cp)	11.87	11.80	12.76	15.98	18.27	17.38
SSB Credit	12.68	12.68	12.68	12.28	11.08	10.18
Required Reserves (Dr)	17.44	18.02	18.17	18.58	17.99	17.47
Required Reserves (actual)	17.05	17.05	17.66	19.03	18.81	17.87
Vault Cash (Cv)	2.03	2.62	2.34	2.97	4.32	4.33
Settle- ment/ Excess Reserve Accounts (Ds+Dx)	1.56	2.33	3.49	5.84	3.93	2.42
Bank Deposits (excl. SSE)	67.99	76.33	78.40	90.06	98.71	104.16

Source: Analytic Accounts of the Bulgarian National Banks as presented in V. Peicheva (1993)

Table 3

## Movements of Money Multiplier Ratios

	Dec 1991	March 1992	June 1992	Sept. 1992	Dec. 1992	March 1993
Currency Ratio (cp)	0.12	0.11	0.11	0.12	0.12	0.11
Required Reserve Ratio (r)	0.17	0.16	0.16	0.14	0.12	0.11
Vault Cash Ratio (cv)	0.02	0.02	0.02	0.02	0.03	0.03
Settle- ment/ Excess Reserve Ratio (ds+dx)	0.02	0.02	0.03	0.04	0.03	0.02
Settle- ment/ Excess Reserve Ratio (exclude SSB)	0.02	0.03	0.04	0.06	0.04	0.02

Source: Calculations based on Table 2 and Analytic Accounts of the Bulgarian National Banks as presented in V. Peicheva (1993)

dx is the ratio of excess reserves to deposits. Excess reserve balances are maintained by a bank as a precaution against future contingencies. Because there is no separate account at the BNB for excess reserves, money which banks wish to keep for this purpose would be placed in their settlement accounts. The level of settlement/excess reserve balances are described in Table 2 and the corresponding ratio, ds + dx, appears in Table 3.

Another reason banks would have excess reserves is credit ceilings constraints. Credit ceilings restrict the "maximum possible

increase of the total debt on the loans in local currency for the business activities of the firms and other organizations owed to the banks." (BNB, 1991, p. 39) Given formula (10) credit ceilings will influence the money supply only if they affect one of the variables on the right side of the equation. By restricting the quantity of loans that banks can make for economic activity, the ceilings force banks to reallocate their portfolio of assets. If the only assets that banks could hold were loans, cash in the vault and deposits at the BNB, then the credit ceilings would be effective in restraining the money supply. This can be illustrated in the following simplified balance sheet:

Bulgarian Bank	
Reserve Account @ BNB	Demand Deposits
Settlement Account @ BNB	Savings Deposits
Cash in vault	Time Deposits
Loans for Economic Activity	Foreign Currency Deposits
	Import and Restricted Deposits
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	Net Worth/Capital

Under these circumstances where asset choices are so limited, restrictions on loans for economic activity must increase one of the other categories of assets. This would effectively raise one or more of the ratios in the denominator of the money multiplier. An increase in these ratios would lower the money supply.

This may have been a reasonable description of the banking system immediately after the transition began. Now, however, there are more options for banks. The most important is the growth of the government securities market. The government continues to run deficits in its budget which are partially financed by borrowing directly from the BNB and partially by issuing government securities. The banks have been important buyers of government securities which are an increasingly significant part of bank portfolios. With government securities in the portfolio, the simplified balance sheet would then be:

Bulgarian Bank	
Reserve Account @ BNB	Demand Deposits
Settlement Account @ BNB	Savings Deposits
Cash in Vault	Time Deposits
Government Securities	Foreign Currency Deposits
Loans for Economic Activity	Import and Restricted Deposits
	-----
	Net Worth/Capital

4/0

With government securities added to the possible assets of the commercial banks,  $dx$  need not rise and  $MM$  will not fall. Under these circumstances, the money supply need not be affected by the credit ceilings.

If the credit ceilings have been influencing the money supply, banks should be accumulating excess reserves.<sup>5</sup> To determine the effectiveness of credit ceilings, excess reserve balances must be separated from transaction settlement balances since both deposits are placed in the same account.

One approach would be to estimate the size of settlement balances. This will depend on many factors which regulate the use of these accounts.<sup>6</sup> For example, the penalties that are applied for failure to provide sufficient balances for clearing transactions will affect the level of balances maintained. Since banks are allowed to overdraw their accounts up to the limit of their reserve deposits, the settlement account balances do not have to be as large. The size of anticipated transactions can also affect the balances. If banks are small and have large customers or expect to make large transfers through the interbank market, they may place relatively large amounts in the settlement accounts in anticipation of a large transaction.

A possible bench mark, although the circumstances do differ, is to measure settlement balances against vault cash holdings since vault cash is also held for transaction purposes. The figures in Table 3 suggest that the scale is similar, but there is more volatility in the  $ds + dx$  ratio. An adjustment of the  $ds + dx$  figures should also be considered. The State Savings Bank does not have settlement accounts at the BNB. If new  $ds + dx$  ratios are computed where deposits at the SSB are excluded, we get somewhat higher ratios.<sup>7</sup> These ratios appear in the next to last line of Table 3. These balances and corresponding ratios are still relatively small and only a little higher than the vault cash ratios.

What is somewhat surprising is that  $ds + dx$  ratios do not fall as time passes. If the development of the government bond market made

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<sup>5</sup> This theoretical argument is consistent with Coates (1992). Coates, however, argues that credit ceilings will give banks few options to make loans and excess reserves will increase as a result.

<sup>6</sup> I would like to thank Helmut Wendel for pointing out that there can be a wide variation in the size of these balances across countries depending on local regulation and how required reserves are measured.

<sup>7</sup> This ratio is computed by dividing Settlement/Excess Reserve Accounts by Bank Deposits (excluding SSB), last line of Table 2.

it is easier to avoid holding excess reserves, then this ratio should decline over time. One possible explanation is that the implementation of the Bisera transaction processing system in the autumn of 1992 increased the level of settlement balances. The decline in balances since then could be attributed to better understanding of the workings of the Bisera system.

Although an exact determination of the relative division between settlement balances and excess reserves is not possible, excess reserves appear to be small. With the availability of government bonds as an alternative to holding excess reserves, credit ceiling will have little effect on the money supply. Alternative methods for controlling the money supply are therefore needed. Given the relative stability of the ratios that make up MM, policy-makers should shift their attention away from credit ceilings and focus more on variables in MM and elements of the monetary base the BNB can influence directly.

### III. Alternative Methods for Controlling the Money Supply

The major sources of monetary expansion in the economy can be seen by breaking the money supply formula into its two principle components: the money multiplier, MM and the monetary base, MB. Table 4 traces their movements since the end of 1991.

The table presents two calculations of the money multiplier. The first row, Money Multiplier (cal.) is derived from the ratios in Table 3. The second row which is labeled Money Multiplier (actual) is calculated by dividing the money supply by the monetary base.<sup>3</sup> The two calculations differ for two reasons. First, the calculated money multiplier is derived from the required level of reserves in reserve accounts, not the actual level. Second, float is not included in our equation.<sup>9</sup> Still, the two measures closely track one another. The large increase in the multiplier which occurs at the end of the period is due to the declining level of required reserves as the State Savings Bank is repaid its credit. The multiplier should rise more in the future as this continues.

The major source of money supply growth, however, is the rise in

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<sup>3</sup> The figures here appear in Peicheva (1993). Since the broad money figures in her accounts differ slightly from those in the BNB Bulletins, dividing her monetary base numbers into the BNB figures may not give exactly the same results as those reported here.

<sup>9</sup> Float appears in the Analytic Accounts of the Bulgarian National Bank. If the Bisera transaction processing system is functioning properly, no float should arise from transaction processing. Float could arise if BNB makes loans when banks have insufficient funds to make payment. Coates (1992)

Table 4

## The Money Multiplier and the Monetary Base

	Dec 1991	March 1992	June 1992	Sept. 1992	Dec. 1992	March 1993
Money Mult. (cal.)	3.39	3.58	3.47	3.50	3.73	4.11
Money Mult. (Actual)	3.77	3.77	3.64	3.56	3.70	4.28
Monetary Base (MB)	29.73	32.80	35.52	41.50	45.51	41.13

Source: Calculations based on Table 2 and Analytic Accounts of the Bulgarian National Bank as presented in V. Peicheva (1993)

the monetary base. The BNB can exercise considerable control over the monetary base through changes in its refinancing policies and more recently through its open market operations, but there are other activities over which the BNB has less control. The most important of these other activities are the direct financing of government deficits and BNB's intervention in foreign currency markets.<sup>10</sup>

When the government borrows money from the BNB, this increases the size of the monetary base. The BNB has limited control over the level of direct government borrowing. Rather, the Parliament sets an annual limit for direct government borrowing. Even when the government has needs which exceed this amount, the BNB has had difficulty in controlling the level of credit it eventually extends.

The BNB has also been active in the foreign currency markets trying to smooth the exchange rate movements of the lev. While Bulgaria does not have a fixed exchange rate, the BNB has intervened in the

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<sup>10</sup> For a more detailed description of variables effecting the monetary base, see Miller (1993). Filipov (1992) describes the instruments that the BNB is presently using to carry out monetary policy, and provides a useful history of when many of these instruments were first utilized. For an analysis of the effectiveness of monetary policy at the beginning of 1992, see N. Georgiev and N. Gospodinov (1992).

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market so that movements in the lev are less dramatic than they otherwise would be. The problem is that when the BNB enters the foreign currency market, its actions affect the monetary base and the resulting change in the money supply may not be desirable.

Unlike its financing of government debt and its foreign currency operations, the BNB has more control over its refinancing activity. Refinancing is commercial bank borrowing from the BNB.<sup>11</sup> It is the BNB's most important discretionary tool. Refinancing takes a variety of forms under a variety of conditions. In each case, however, the basic accounting and the effect on the money supply is the same. An increase in refinancing increases the monetary base. Over time there has been a shift from early forms of refinancing such as moratorium, conversion and other deposits towards discount loans, interbank deposits which are sold at auction, and Lombard loans. By varying the amount of refinancing the BNB can influence the monetary base.

In 1993 the BNB began to engage in open market operations. This became possible as both a primary and secondary market for government securities developed. In the United States this is the principle mechanism for controlling the monetary base. While open market operations may eventually replace refinancing as a major tool, the nascent market for government securities is still too fragile for open market operations to bear the full weight of monetary policy.

With the development of open market operations, the BNB now has a set of tools which should make it possible to exercise more control over the money supply. The major problem the BNB faces in limiting growth of the money supply is the effect of direct government borrowing. The pressure to assist in the financing of government deficits continues to raise the monetary base and the money supply. Until this pressure subsides, it will be difficult for the BNB to gain control over growth of the monetary base.

The position of the International Monetary Fund (IMF) as regards monetary policy is described by Coates (1992). The IMF recognizes many of these difficulties and has established targets for government deficits. The hope is that if the government can keep its borrowing within certain limits, growth of the money supply can be reduced over time so that the inflation can be reduced.

There are steps, however, that the BNB can take to offset these pressures on monetary growth. First, the BNB can reduce the amount of refinancing. Refinancing adds to bank reserves when government

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<sup>11</sup> This is very different from the way this term is used in the United States. In the U.S. refinancing usually refers to the refinancing of a loan (i.e. mortgage) where the borrower pays off the original loan and then takes out another.

deficits are already pushing reserves upward. In the United States central bank activities to commercial banks are used only as a "safety value" to manage special problems. If refinancing were used only for special purposes, less refinancing would be required, and the monetary base would expand less rapidly.

Secondly, reserve requirements should be increased. As the State Savings Bank repays its credits, the reserve requirement ratio,  $r$ , is declining and  $MM$  is rising. By raising the reserve requirement for other banks this decline can be stopped or even reversed.

The advantage of a higher  $r$  and smaller  $MM$  is that expansions of the monetary base will have a smaller impact on the money supply. A higher  $r$  would have the same effect as credit ceiling were suppose to have. They would force banks to hold higher deposit balances at the BNB. By raising  $r$ , the BNB can exercise more direct control over  $MM$ .

The cost of a higher  $r$  is the effect on the banks. Higher reserves would give commercial banks less discretion over their assets and possibly reduce profits. The impact on bank profits can be offset if the BNB paid interest on these new deposits. If banks had less discretion over their assets, this would not necessarily be a bad outcome. As it is, the banks are providing only limited credit to the private sector. It would be best if commercial banks concentrated for the foreseeable future on improving the payments mechanism and managing their state enterprise debt problems. Higher reserve requirements should not inhibit either of these activities.

#### **IV. Conclusion**

As the transition proceeds, monetary instruments which served well during the early period need to be discarded in favor of alternatives which are now available. Credit ceilings are no longer effective. Policy-makers need to shift their attention to other tools to limit money growth. Large government deficits and pressures to intervene in the foreign currency markets make control of the monetary base difficult. These pressures on the monetary base can be offset by reducing the amount of refinancing, but this will not be enough to prevent the money supply from growing to rapidly.

Because open market operations are still limited, the best alternative at present is to increase reserve requirements. The money multiplier is increasing because the State Savings Bank credit is being repaid. This can be reversed by increasing reserve requirements. The effect of higher reserve requirements on the commercial banks would be no different than the intended effect of credit controls - more deposits at the BNB. In the absence of effective credit ceilings, higher reserve requirements should be implemented to limit expansion of the money supply.

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CP

Worksheet for Quantitative Data - AID Projects: Central and Eastern Europe (Financial Data)

Institution: University of Delaware  
Project Component:

Quarter: 9 (July-September 1993)  
Contact Person Regarding: Stan Shumway  
this Report

PROJECT EXPENDITURES	AID FUNDS		GRANTEE (Cost Share)		OTHER SOURCES N/A	ACCRUED	AID FUNDS REMAINING	PROJECTED NEXT QUARTER
	Actual	Projected	Actual	Projected				
Staff Salaries								
U.S. (Instruc.)	147,982.00	202,230.00		7,762.50		147,982.00	54,248.00	0.00
Staff Salaries								
U.S. (Staff)	143,638.00	49,491.00		11,410.00		143,638.00	(94,147.00)	0.00
Fringe Benefits	82,765.90	72,999.00		6,047.25		82,765.90	(9,766.90)	0.00
Salaries Local	5,011.54	12,550.00		0.00		5,011.54	45,188.46	12,550.00
Consultants	0.00	0.00		0.00		0.00	0.00	0.00
Travel-Per Diem	31,181.28	29,626.25		42,130.75		31,181.28	87,323.72	29,626.25
Nonexpendable								
Equipment	0.00	0.00		0.00		0.00	0.00	0.00
Expendable								
Supplies	17,997.09	11,012.50		0.00		17,997.09	26,052.91	11,012.50
Indirect Costs	158,144.47	140,232.45		24,829.75		158,144.47	43,320.53	20,410.77
Participant Costs	0.00	0.00		0.00		0.00	0.00	0.00
Workshops, Seminars,								
Conferences	0.00	250.00		0.00		0.00	1,000.00	250.00
Video/TV Production	0.00	0.00		0.00		0.00	0.00	0.00
Subcontractors	0.00	0.00		0.00		0.00	0.00	0.00
Translation	0.00	1,875.00		0.00		0.00	7,500.00	1,875.00
Scholarships	0.00	0.00		0.00		0.00	0.00	0.00
Curriculum								
Development	0.00	0.00		0.00		0.00	0.00	0.00
Other Direct Costs	0.00	0.00		0.00		0.00	0.00	0.00
Other	0.00	0.00		0.00		0.00	0.00	0.00
<b>TOTAL</b>	<b>586,720.28</b>	<b>520,266.20</b>	<b>0.00</b>	<b>92,180.25</b>		<b>586,720.28</b>	<b>160,719.72</b>	<b>75,724.52</b>

Note: Full year salaries initiated in the ninth quarter are reported in their entirety for Quarter 9.

Note: Grantee cost sharing figures are not yet available.