American University of Armenia

College of Business and Management

Business Research

ARMY. THE COSTS AND BENEFITS

Instructors	Dr. Dana Stevens
	Dr. Judy Newton
Students	Lilit Hakobyan
	Zoya Andekyan

YEREVAN , 2000

Preface:

A survey was conducted in order to understand what people think about the current situation in Armenia. A hundred and fifty people were questioned and the hundred and twenty six of them think that "the war[1] will not end for at least coming ten years", and about 80% of all said they cannot predict anything positive for the economy and business of the country for this period (Appendix1). Could it be possible for the nation, which has most of its population and a noticeable wealth of quite successful Armenian businessmen and professionals outside the country, to hope to use both of the valuable experience and capital in independent Armenia?

"Risk" is the word, which is strongly correlated with business environment. It is much more important for the transitional countries, where the risk level is not comparable with that of the rest of the world.

The interest rates, being one of the clue factors affecting the level of national investments and production, by their notion and nature are depending on the level of risk. The systematic risk of the country, being affected by both political and economic risk, is structured into the all required interest rates inside the country. The interest rates are testing all the new projects and investments. So that, if their profit margin, which is determined by factors like productivity or competition, is lower than the level of required interest rates, determined by the level of risk, the projects will be rejected and investments stifled. This is true for the transitional countries, where productivity is rather low and competition at

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1 Means: Nagorno-Karabagh conflict

their "open" market of goods is quite high; on the other hand, the risk level here is also high. So that this may become the way leading to deadlock.[2]

Army is the one institution, that have (or can have) its noticeable contribution into this risk factor. We think, that the volunteer army in transitional countries like Armenia, is the one institution, which is able to reduce this risk, giving the opportunity for the more business projects to be realized. As the volunteer army makes stronger the response chain from the public side toward army, which is necessary for post communistic countries, this makes the arm forces more responsive to public opinion and thus, more controllable; it is able to reduce the internal political risk. Thus according to MacKenzie[3] the draft army is one, which is more suitable for totalitarian regimes. On the other hand, historically, only the countries with low level of external political risk had the professional armies. So, the volunteer army will help the transitional countries, most of whom are engaged in so-called regional conflicts, to overcome the psychology of the "permanent war". This is particularly true for Armenia, who has such a psychology for the last ten centuries, excluding the years of the Soviet history. This will decrease the perception of the external political risk.

Based on all these arguments, we assume that the shift to volunteer army will have a positive effect for the business environment of transitional countries, in particular we wish that is true for Armenia. On the other hand, this shift will increase the defense expenses, which are rather high in Armenia (4% of GDP), while for Russia it is 2.183% and for Ukraine is 1.2% (Appendix 2).

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[2] For Armenia the decline in the interest rates for last 3-4 years does not necessarily mean the decline of risk, it rather means the shortage of demand for this high interest cost, as there is actually no project with higher profitability, than the "true" level of required interests is; so that it is becoming clear: the financial market and the interest rates in Armenia are not comparable with level of interest rates in the world

[3] Politics and Morale: Current Affairs and Citizenship Education in the British Army, 1914-1950, by S.P. MacKenzie. Don Mills, Ontario, Clarendon Press (distributed by Oxford University Press), 1992

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Abstract:

The defense expenses are usually considered to be inefficient because they are taking away resources from the other branches of economy and use these resources for producing goods and services, which can never be consumed. So, they are treated as wastage of scare national resources. These expenses are even less desirable for developing countries because of a higher vulnerability of their economies and low levels of average consumption.

Transitional countries also seldom think of the shift from the existing form of a conscript army to the volunteer one. Creation of a volunteer army is thought to be rather expensive and not affordable to their weak economies when there is an opportunity for the army with a compulsory duty. Actually, only the Baltic countries from all the former Soviet republics were thinking of this shift. [4] [10]
On the other hand, this shift may have the positive economic consequences due to the multiplier effect of the increased government expenditures. So that these positive consequences may be able to cover all the costs associated with the shift from one type of army to the other.

This work is to investigate the economic consequences that the shift of conscript army into volunteer one will have for Armenia; as well as the possibility of this shift and sustainability for the budget. First we will consider the influence of increasing defense expenses on the economy, applying to the world history and the experience of other countries. We want to show that these expenses are more effective for the transitional or developing countries than for the developed ones, because the hypothetically existing trade-off between the national defense and national economy is more attributable for the later ones. Then we will look into the costs and benefits that this shift will have for the economy of Armenia: the volunteer army, which is more expensive from the accounting point of view, can be more efficient from the economic standpoint of the opportunity cost. And finally, we will draw the financial model to apply to the budget and see if all these extra expenses are sustainable for it. And if they are not, then some sensitivity analyzes will be done to find out the conditions that will make this shift possible.

Anyway, it is important to keep in mind, that we want this shift not for the simple sake of stimulation of economy by increasing the government expenditures. We do it rather to destroy the equilibrium, one with an "improper" risk level of interest rates, which has been achieved at our financial market, when the equilibrium in Nagorno-Karabagh conflict was achieved.

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[4] ...In the summer of 1988, a public debate surfaced in the Soviet Union about whether the armed forces should switch from a largely conscript army to an all-volunteer professional army. The proponents of such an army are a diverse group of individuals, including junior military officers, newspaper commentators, academics, and members of the USSR Congress of People's Deputies. Throughout 1989,the Soviet military leadership orchestrated a massive campaign against the proposed transition. Public statements made in early 1990, however, suggest that the military leadership might be altering its position on whether to introduce an all-volunteer system of manning the Soviet armed forces...

"A volunteer red army?" Arnett, Robert; FitzGerald, Mary; Orbis, Summer90, Vol. 34 Issue 3, p398, 5p

Background:

Nowadays Armenian Army represents a regular pattern of a draft army with several adjustments in ideology, internal rules and regulations to the Armenian State Law and The Constitution of the Republic of Armenia.

The general structure of the army follows the one which was established during Soviet period beginning from 1920th. It consists of the following Military branches: Army, Air Force and Air Defense Aviation, Air Defense Force, Security Forces (internal and border troops) The ranking order, resembles Russian Army. It begins from the Lieutenant's and ends by Marshal's rank. All young men are entitled to begin their serving at the age of 18th (Appendix2) if they are not involved in the Higher education system. Otherwise, they serve after graduating ether as soldiers or low rank officers. The period of serving for soldiers and low rank officers is two years. In order to make a career in field of military young people may remain in Army structure after they finish compulsory serving and serve by contract, or to apply to higher Officer Educational Institutions. Soldiers are paid during their serving approximately net 1300-2000 dram monthly. The salary of low rank officers is from 40,000 to 70,000 drams. The actual Military manpower—reaching military age annually males: 32,052 (1999 est.) (Appendix 2). The actual size of Army is estimated to be 60,000.

Armenia works toward the creation of a small, combat-ready and well-balanced, defense force. The army and the Ministry of Defense have structures similar to those of their counterparts in the former Soviet Union, except three equally-important elements determine Armenia's security and politico-military agenda. The first is the preservation of Armenia's sovereignty, territorial integrity, and the physical existence of its population, the second is the security of Nagorno Karabagh and its population, and the third is Armenia's active participation in European security processes, and the engineering of a new European security architecture. To reach these goals, Armenia, along with creating and maintaining a strong and effective army, conducts its diplomacy at five different levels:

1. Armenian-Russian bilateral cooperation in the military and security field.
2. The CIS collective security system.
3. The Nagorno- Karabagh peace process
4. The international agenda for arms control and disarmament, in which the Treaty on Conventional Forces in Europe is the most central for Armenia. Other important directions include the Convention on Chemical Weapons, the Convention on Biological Weapons, the Comprehensive Test Ban Treaty, and the Non-Proliferation Treaty.
5.Cooperation with NATO within the framework of the Partnership for Peace program. By adopting an active "policy of engagement" on all five levels, Armenia can ensure its own security.[5] [14]

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[5] The information is taken from the WebPages of Ministry of Defense of RA

Armenian-Russian Relations

Armenian-Russian military cooperation is the critical direction in Armenia's security policy. The cooperation is based on the principles of three key commitments: Treaty on Friendship, Cooperation and Mutual Security (yet to be signed), Treaty on the Russian Military Base on the Territory of Armenia (yet to be ratified), and the Treaty on the Status of Russian Border Troops on the territory of Armenia. Some critics argue that the presence of Russian military in Armenia undermines Armenia's sovereignty. On the contrary-their presence in Armenia, with Armenia's consent, and on the basis of the mutual interests of the two countries, clearly strengthens Armenia's security in the region and shields Armenia from any possible attack from its non-CIS neighbors. Armenia's two non-CIS neighbors are Turkey and Iran. While Iran has, Turkey, however, has refused to establish diplomatic relations with Armenia and lift the blockade. Thus, Turkey remains a potential source for conflict with Armenia. Thus, Armenia must continue to cultivate its military cooperation with Russia, constantly mindful that the Russian-Armenian security agenda is current and forward-looking. Through Russian-Armenian military cooperation, Armenia must continue to solidify the assurances for its sovereignty, its territorial integrity and the inviolability of its borders.

Strategically, we can state that for the most difficult periods of its history Armenia heavily relied on "fidayi" groups, which actually were the groups of volunteers.

Historically, Armenia never had the all volunteer army. On the other hand, for the last ten centuries, especially for the resent period, Armenia never had the feeling of peace.

1. Defense Expenses and National Economy

1.1 Global View

The notion of the national defense appeared simultaneously with the notion of the state. A little bit letter, when the emphasize was shifted toward the national wealth as the indicator of health of the state and welfare of its population, the trade off between these two notions have appeared. The question of the role that any of these notions must play in the live of the other one and the state in whole became rhetorical one. Not surprisingly, the question about the positive or negative correlation between these two elements becomes the fundamental question for anyone, who is somehow engaged in the political economy. The contradiction in the solutions found are existing in the history and up till now.

What Do the Studies Show?

A number of studies employing statistical and economic models have been conducted by social scientists to find the relationship between defense spending and economic growth. One of the simplest and most cited is the rank correlation analyses employed by Robert DeGrass[12]. Rank correlation analysis involves a comparison between two variables, such as military expenditures and investment, or military expenditures and gross national product. De Grasse suggested that, in general, countries that spend more on defense invest less in capital and other productive goods and, as a result, experience lower of economic growth. In his widely cited study of defense spending and economic performance in the *major industrial countries*, Smith employed a regression analysis, testing the ratio of investment to gross national product against the GNP growth rate, unemployment, and military expenditure as a percentage of GNP. He found a powerful correlation between defense spending increases and investment spending declines.

Other scholars, however, have expressed doubts that such a trade-off exists. Given the ability of the modern industrialized countries to finance their myriad activities, there is no consistent support for the thesis that budgetary choices are in effect the zero-sum game. One sophisticated study of the advanced industrial countries over the period of 1948-1978 found no evidence of a trade-off between defense and social spending, since states were willing both to rise taxes and to use deficit spending to increase government budgets[13].

Applying to the World History

One of the phenomenons of high economic growth for after war Germany and recently developed Japan is their minimal spending for the military and defense purposes; while Germany was restricted from the militarization of its economy, Japan had chosen this policy deliberately, and successfully as history has proved. The extremely high level of expenditures for the national defense is blamed for the collapse of the Soviet Economy and the low growth rate for the US GNP. On the other hand, the history is quite different for the developing countries, such as Taiwan, which in accordance to Chan had the "heavy defense burden in both dollars and manpower", has achieved the highest growth for its economy[16]; the same is the story of South Korea, where "despite the continued external threats and heavy defense spending " as it is argued by Chan-In Moon and In-Taek Hyun " performance in economic growth and social welfare has remained impressive, posing an interesting anomaly to the theories on the trade-offs between guns and butter"[17].

The rational for the positive or negative correlation theories

The supporters of the positive correlation use the Keynesian equation for GDP, $Y= C+G+I+(M-X)$ where C is consumption, G is governmental spending, I is investment, M is export, X is import. They say that the governmental spending is one of the components of the macroeconomic equation for GDP and any increase in this component will boost the national production.

On the other hand, their opponent argue that:
1) if the country is increasing the expenditures for defense purposes, it will do that by competing with the investments of the private sector, because the increased demand for the money capital will boost the interest rates and the substitution effect will take a place;
2) moreover, the competition is not exhausted at the money market, it is going further, by expanding to the human resource market. Here the defense economy is taking the most valuable and useful resources that could otherwise serve to some other branch of economy. Actually, the state takes the skilled workers. By creating the new working places it does a little for the chronically unemployed and unskilled resources.
3) furthermore, here the state acts as a monopoly and gives the priority to something else but cost efficiency, so it decreases the competition and gives possibility to the wastage of the scare national resources;
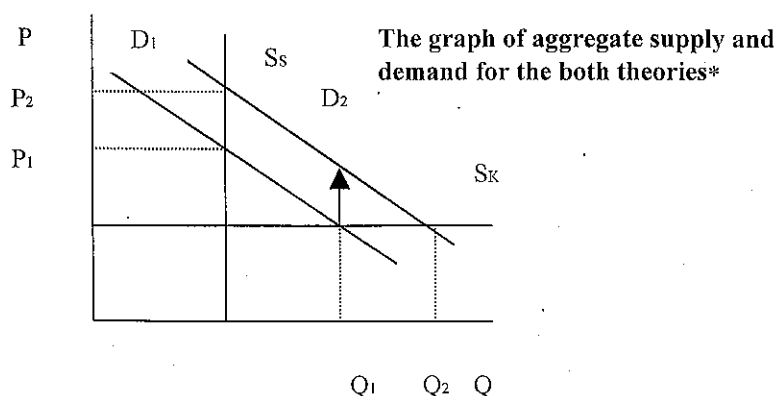
4) also, the defense investment usually are very capital consuming. Because it requires a lot of the money capital with comparatively low human resources, when being used in the other branch of the economy this capital would "produce" more working places;

5) in addition, the defense expenditures are blamed in fueling the inflation at the national market and soaring the prices, it is blamed for both: demand-pull and cost-push inflation; for the former one, it is said that the enhanced defense expenditures are increasing domestic income and demand, while by not producing something for consumption they are keeping the supply at the same level; for the latter one, the defense expenditures are blamed for the usage of the scare national resources and by this causing the price (or cost) increase.

Comparing the two basically different macroeconomic theories

The foundation of the differences of these theories lies in the aggregate supply level for the long-term equilibrium. Classical school, based on Smith laissez faire theory, consider the "full" level of production restricted only by the production function, so that the full usage of the economic resources must take place at the free market, where the long-term equilibrium is to be achieved. Keynes, on the other hand developed his theory of the economy, as a system, where some variables can be influenced by the others, while having no ability for the reverse response. This mean inflexibility of some clue economic variables, and the possibility for the long-term equilibrium to be achieved anywhere under the "full" level of production. Such equilibrium will stay stable until any conditional change from the outside will take place to destroy this equilibrium. Government expenditures, in this theory, can and are to be these changing external conditions, destroying the equilibrium achieved at the undesirable level.

Thus, the aggregate supply curves for these two theories are perpendicularly different, while the demand curve coincides. Anyway, because of the different

P D₁   Ss   **The graph of aggregate supply and**
                 demand for the both theories∗
P₂   D₂

P₁   Sₖ

Q₁ Q₂ Q

8

* The S_s is the aggregate supply level in Smith theory, while the S_k is the aggregate supply level in Keynesian theory. Though the demand curve coincides for both of these theories, the shift of this curve will increase the price level from P_1 to P_2 in Smith's system, while keeping the volume of production at the constant Q_s level; at the same time, these shift of the demand curve from D_1 to D_2 in Keynesian theory will increase the production volume from the Q_1 to Q_2 level, while keeping the price level constant and equal to P_k.

positions of the aggregate supplies, these two theories put the different roles on the aggregate demand.

As it is seen from the graph, for the Keynesian theory demand is crucial for defining the GNP level, while for the Classic school any shift in demand means just an inflation.

From the standpoint of the defense expenditures and economic growth, we can state, that if there is a "Smith equilibrium" with the all national resources involved in production, then any extra spending on defense will brink just the new waive of inflation, as the resources from the other branches of production will have to be extracted. It will, really, cause the both kinds of inflation described earlier: demand-pull as well as cost-push. Surly, for the Soviet Union, having the full level of employment and resource usage, both of these kinds of inflation had to take a place.

On the other hand, if there is an equilibrium described by Keynesian model, where the significant amount of resources are "out of the system" and the national supply is restricted just by the national demand there will be almost no, or little, competition. In this case the increased internal aggregate demand will stimulate the production side to increase is supply.

Our standpoint here is that the developing or transitional countries are more prone to have the Keynesian type of the economy, than the one with full level of production. To bring some reasons, we will mention the lack of the traditions, such as entrepreneurship and willingness to take a risk; weak institutions of the information and financial flows; and the domestic market as the main or only place for the realization of the domestic production.

Thus, at the beginning of our work, bringing the results of the studies we have deliberately underlined the words "*major industrialized countries*". The studies, that have discovered some trade-offs between these two variables, were done in the major industrialize countries, where it is more of the all other countries possible for the production to achieve its "full" level. Indeed, even in the United States in 1980s, when it was recession period, the results were quite different: inflation rate were going down when the defense expense were being increased.

1. 2 What Does the Situation in Armenia Show?

Once the military spending is quite stable in Armenia, it is difficult to judge by using the data. Anyway, Armenia displays some evidence that the Keynesian equilibrium is going to be achieved here, so that the government extra expenditures will stimulate the economy.

The Pareto optimality is going to be achieved, while the market has not proved, that it can regulate itself

As it is known, Armenia had began its transition from the point, where the state possessed the main part of the national property and has direct control over the almost all economy and transactions. As the result of the transition the reform program was launched and changes took pace. It was aimed to shift from the command planned economy to the free market one. Thus, the state was reducing its direct role in economy and simultaneously it was decreasing its share of the national property by the process of privatization. During these almost ten years Armenia was intended to become one of the countries, where the state has as little share in the national property as it was possible in the world. *The key point was: market will regulate itself better than the state were doing it before.* Today, the privatization is mainly accomplished as well as the reforms program. Is the market going to justify itself? The answer is more probably going to be negative.

The Pareto' s optimum is a point where all the available resources are delivered and all the desirable transactions were done. When it is achieved, it is said that the economy has achieved it "static" position as soon as no more transaction will take a place, which will improve the situation of any of the members of society without deteriorating the situation of the others.

Once the national property was distributed and all the transactions have took a place, we can assume that this optimum is going to be reached and the equilibrium is going to be achieved. On the other hand, the employment rate, as the indicator of the position of this equilibrium situation, is still far from its full level, furthermore, there is no noticeable shift toward this level.

So that we can conclude, that the market is not going to regulate itself the way we desired it would do. So, that the change of the external conditions is needed to move this equilibrium. And this change can be implemented by the increasing of the government expenses.

Domestic Demand is Crucial for the Domestic Producers

It is one of our geo-politic particularities that puts as into this particular situation, which give to domestic producer both the benefits as well as disadvantage. As it is rather difficult and costly for the foreign competitors to achieve the Armenian market (because of the difficulties of transportation) it can somehow protect our

producers from more advanced competitors. On the other hand, this strange blockade makes the domestic market and demand crucial for the domestic producers. National demand and income become the mane constrains for the national production. Indeed, most of the domestic firms complain that the internal demand is too weak for them to achieve the mass production scale effect in order to minimize the costs. In some cases the domestic market is not enough even to achieve the breakeven point in production, so that some of the business projects are not being realized, simply because of the modest sizes of internal market. In this situation, there is no sense to speak about the inflation effect due to the increasing national income. This increase will rather boost the domestic production, which definitely has the more potential than it is used.

CONCLUSION

From theoretical view it is reasonable to believe that any increase in defense expenses will lead to declining production growth and soaring prices at the national market. Furthermore, there are some studies, which reveal the negative correlation between the growth of the National Product and defense expenses. However, the result of these studies are insufficient, for concluding so, as they can be more attributable to advanced, industrialised countries, rather than to the developing ones, where the part of the national resources are "left out of the economic system". Thus for these countries the increasing expenses (even on defense purposes) can stimulate the national economy. The key point here is to make these expenses into relatively flexible and not "massive" investments, in order not to stifle the national economy, when it will begin "to grow up" and the competition reinforces.

As for the Armenia, though it can not be judged about correlation between defense expenditures and national economy by using the data, there are some evidences proving that the increased governmental expenditures will lead to higher level of national production.

2. The Volunteer Army versus the Conscript One

The notion of volunteer army seems to be economically inefficient for such transitional countries as Armenia. In general, there is a strict contradiction of opinions concerning the economic efficiency of two types of armies, which are the conscript and volunteer ones. To investigate this problem for Armenia we would apply a test of costs and benefits of the both types for economy and budget separately.

2.1. The Economic Effects

Actually, the volunteer army, being the part of the overall defense expenses, surprisingly, overcomes all the inefficiencies of defense expenditures that were listed at the beginning of our work. It overcomes some of them, like the high capital and manpower proportion, by the very nature of it. The others, like the blame for causing inflation, are overcome due to the current economic situation of Armenia. Furthermore, the draft army, can be blamed in some these inefficiencies, like in the case of withdrawing the worthy skilled labor capital out of the market of its best usage.

GDP effect

One of the most frequently mentioned opportunity costs for conscript army is the opportunity cost of salaries, which are not paid (at least in Armenia) and the goods, which are not consumed. For the countries with "full" level of production, where the supply is restricted just by productivity factors, this will be only the cost paid by soldiers, who would not consume these goods. While for the countries like Armenia this cost will be transformed into the opportunity cost for economy in whole and national production. This cost that makes the national income lower restricts the domestic aggregate demand, which is crucial for determination of the level of aggregate supply, and national production in whole. This difference will be higher if to take into account the multiplier effect. For the planned economy of Soviet Union, with the level of production directly controlled by the center and the employment rate close to the "full" one, the solution of the "unpaid army" from the economy standpoint can be regarded as the best one, as the increasing costs of defense would bring just the new level of inflation. On the other hand, for our economy, which is moving toward market relations, the economic structure of volunteer army can be used as one of the mechanisms to influence the national economy. Due to our estimations the government spending multiplier for Armenia is nearly 1.74 (see Appendix 4). Thus for the extra 49 560 mln AMD (for the detail analyses of this cost

see the next part) that the shift to volunteer army will cost to the budget, the effect for the national production will be 86 234.4 mln AMD. That is approximately 11.4 % of the national production of the 1999-year.

Unproductivity cost

There is also productivity or ineffectiveness cost for the GDP caused by maintenance of conscript army. Because the part of solders are already working, before their going into the army, the conscript army is increasing the labor force turn over when it is taking the worker away from his workplace. One of the particularities of transitional economies is the crucial role of the labor force skills and the speed and cost of acquisition of this skills. The existing conscript army is lowing this speed and making higher this cost of the skills acquisitions, as the time is needed for newcomers to become skilled and for solders to retrain themselves after being back. This phenomenon can be more effectively illustrated in the banking system, which is one of the newly developing structures for Armenia. Here the knowledge and experience are very important. We have conducted a survey, where the 30 men (15 of which have served recently in army and 15 have not) working in this system. The questioner was built to find out the differences in the current professional position and wage scales of members of these two groups. These differences are caused by the interruption of their professional carrier and being out of the "professional" sphere that changes so rapidly, during two years of serving in army. The results show that the average wage of those who did not serve in army is about 30% higher than that of the others. Hence this difference is not attributable to the changes in general market conditions, it is due to the differences in their productivity. So, if the one fourth of all solders were working before serving, that means the unproductivity cost will be about 0.35% of GDP[6].

Any effect on unemployment rate?

The army today is actually out of the labor market, so that from the first view it may seem, that the shift from one type of army to the other will bring no difference into the level of unemployment rate, if there will be no changes in the sizes of existing army. But this difference will take a place due to the multiplier effect and its stimulation of the national production. According to our estimations there will be approximately 1.9 points decrease in the unemployment rate due to the increase in the level of domestic production. Although the part of this increase will be used to keep status quo between the "old" and "new" labor markets, the other part, nearly 4.8%[7] of the GDP will create the new working places. By using Okun' s correlation existing between unemployment, above its natural rate, and growth in the level of potential

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[6] The labor force for the last year was 1 468 400 people, as unemployment level was 12.1% there were 1 290 724 employees, so that the 60 000 solders are 4.6% of it; the 0.046*0.25*30=0.35% of GDP
[7] (86 234.4-49 560)/756 200=0.048, where 756 200 mln AMD is the level of GDP for 1999

GDP reversaly, this growth of 4.8 % of GDP will be transformed into 1.9% points in unemployment[8]. So that it may decrease the 11.5 % unemployment, which is the data for the end of the 1999-year, to the 9.6%.

Would there be any inflation caused by this shift?

The volunteer army is going to enter the labor market. On the other hand, the 60 000 of the solders that had to go to army will also remain at labor market. Furthermore, the conscript army, due to its "random" choice could take the valuable skilled resources out of the market, reinforcing the competition for the rest of them. The volunteer army, by his nature, will not interfere with the process of labor efficient distribution, hence it will mainly take resources, which are either "undistributed" (those who are unemployed) or have not entered the labor market yet (like those who have just finished the school). As for the changes in production side, they will increase the demand at the labor market. Anyway, the unemployment will still remain above its natural rate. So, that the competition will not become severe. This will make the cost-push inflation insignificant.

As for the demand-pull inflation, the increased level of supply will prevent it (as there is extra capacity for the production).

Thus, we can state that the change will occur in level of real GDP and not only in the nominal one.

Any substitution effect?

One the main disadvantage of increasing government expenses for the domestic economy stimulation is the possible substitution effect. It is told that the government by its entering into the capital market competes with the private sector, this competition is boosting the interest rates and decreases the level of the private investments.

To test the possibility of this effect for the Armenian market we have ran some correlations. First we have tested the correlation existing between the volume of TB-s and their interest rates (as we are going to increase this volume significantly), using the monthly data for the period of 1996-2000. Surprisingly, this coefficient was negative, which means there is no regularity pattern in relations between these two data[9] (for more detail see appendix 5). Thus, even though, there is strong negative correlation between loans interest rates and their volume[10] (for more detail see

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[8] Although it is true for the US economy, this ratio of 1% unemployment =2.5% potential GDP depends on the productivity, so that we can state, that for Armenia the 2.5% of potential GDP will involve more labor force than the 1% is

[9] This may indicate the fact that demand is not the clue factor in subscripted TB-s volume and even interest rates determination, that is possibly because demand exceeds supply significantly

[10] For AMD loans this coefficient is "-0.6979"

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appendix6) and some positive correlation for the TB average interest rates and loans interest rates[11], the correlation between volumes of TB and loans is also positive[12]. As this means that increasing the TB-s total volume we are increasing the loans volume also (which is nonsense), we can state that there is no regularity pattern for the government debt and investments volume.

Thus, we will ignore the substitution effect.

Any other economic cost for keeping the conscript army?

One of the main advantages of the free market economy, is its ability to distribute the scare national resources in the way, most efficient for the economy, by using the price mechanism. Army, by its nature of the "collective good" is violating this mechanism. However, the conscript army violates it even more.

In transitional society, where the legislative power is weak, any undesirable compulsory duty will increase the temptation to violate the law. Not surprisingly this will lead to the birth of corruption. As the result, the professional positions that have any influence on the "outcome" of ones serving in army or being exempt, will be overestimated in their payments. So, that the resources from the other branches of the economy will be attracted here. This will distort the balance of the needs and payments in society and interfere with the movement of economy toward the free market relations[13].

Any effect in trade balance?

According to the Keynesian GDP equation, any increase in income level will increase the import level, while having no influence on the export level. So that, one can expect the current account of the trade balance to deteriorate.

However, there are at least two "but"-s here:

1. as we have already mentioned, the stronger aggregate domestic demand will let the domestic producers to increase there level of production, so that they could achieve the lower cost level, due to the scale effect. This will help them to become stronger in competition at the foreign market and thus, can stimulate export also;

2. the second argument is, that we are not going only to increase the income level, but also redistribute it: the volunteer army will, on the one hand, reduce the

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[11] It is "0.2326" for TB average rates and AMD loans rates

[12] It is "0.3213" for AMD loans and "0.1778" for the USD loans

[13] Although there is no official source, which says " there is corruption concerned with army structure in Armenia", we will dare claim so, by using our own experience and judgement

corruption concerning with this sphere, while on the other hand it will give to those who are unemployed and have money shortage, the opportunity to earn these money. So that this redistribution can influence the marginal import rate, or x in Keynesian model of GDP.

Any other benefits for the volunteer army?

The mechanism of the volunteer army by its knowledge of the "true" costs will help in the managerial and cost accounting of the decision making process concerning the efficient sizes of army. Indeed, we think that there is more flexibility in the size of Armenian army, than it can seem to be from the first view. With the globalization of the world geographical policy, the notion of the army or defense as the collective good has expanded into the international level. Today for the countries, having the defense agreement or forming the one military block, the notion of the collective good for defense become "collective" for all the countries involved. And the term of the "free riders" today can be applied to the countries. Ethan B. Kapstein in his book of The Political Economy of National Security brings the example of the Japan as the country heavily relying on the defense power of the other members of the military block, he says, Japan went even farther, it claims that it will go into the military expenses when it will see that these expenses are proved to be efficient for the economy.

We are not thinking of Japan or any other country that relies heavily on the defense capacity of their "more powerful" military partners, as the " free riders", as surely there is something that the later ones are buying by sacrificing their economic efficiency. Anyway, if there is an opportunity for the other countries to enter this "symbiosis" relation, they should do it. This is true especially for the transitional countries, with both vulnerable economy and defense, like Armenia. The geo-political situation of Armenia lets her to rely on some of the former Soviet republics (especially Russia) as the military partners. So that it can enjoy more flexibility in her military decisions and their efficiency for the national economy. The volunteer army, on the other hand is the most flexible internal mechanism for defense. It will let us to decrease the army sizes, when the national economy will be recovered so that the recruitment will become more difficult and the defense expenses more inefficient. Anyway, by that time we will have the stronger economy to bring into our partnership.

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2.2 The budget cost and Financial model

The shift to volunteer army may be quite attractive, from the GDP or unemployment or any other cost standpoint, but the budget still remains the main point of the question. Armenia, like most of the other transitional countries, began its transition with budget deficit, becoming a sort of crises not only for itself but also for the economy in whole. Although being decreased, the budget deficit is still significant. Thus, for the any project to be accepted it is necessary to prove, that it will be able to cover all the required expenditures by the future cash flows.

Estimating the cost

The number of estimations and research were done in the foreign countries, including the former Soviet Union (which, as one can expect, has the army structure closest to the one that we have today), for the purpose of shifting from the draft army to volunteer one. These researches have shown that there are mainly three groups of the expenditures concerning with this shift[5],[11]. This includes: the cost of the organization of the recruiting process, including the advertisement cost (advertisement is heavily used in the United States to reinforce the recruitment); the cost of the improvement of current conditions of serving; and the cost of the increased wages, that must be paid.

- For the first group of this expenditures, we have today available resources, in the body of so-called "voeniy komissaariat"- s, that are currently organizing the recruiting process for the draft armies. There will be no significant difference in the work that they will have to do and one that they do currently, so that no additional organizations will be needed for the accomplishment of the recruitment task. As for the advertisement expenses, the history of the United States volunteer army proves that there is no need for this advertisement, at least at the noticeable level, during the periods of the economic recession, when the recruitment is quite successful.

- For the improvement of army serving physical conditions, we would assume that the appropriate compensation, in the form of the salary, would be able to cover this gap existing in the quality of conditions. Like the personal salary of solder can be used for the improvement of his personal meal quality. So that currently we can ignore this group of the expenditures.

- The main increase in expenditures is associated with expenditures of the last group, that is the expenditures for the increasing amount of the salaries. The studies of the all different periods for volunteer army history in the United States, have shown that the 40% difference in the army's salaries and the private sector's average level is enough to attract the well educated and highly motivated young persons[11]. On the other hand, the salary of the volunteer part of our army is currently 50 000-70 000 AMD monthly[14]. And 25 000 AMD is basically the average level of the wages at non-budget sector[15]. However, the problem of "solders equitation" will be complicated by the age restriction, that we are going to have for the labor force in army. The male age group of the 18-25 years is shrinking for the last years. Taking into consideration these argument, and the fact, that we are intended to recruit the well educated and highly motivated persons, as well as the ones, that are looking for the stable workplace and salary; we would take for the bases of the average salary in our model, the average salary of the professional and experienced workers. This will be approximately 55 000 AMD monthly. Thus we will set the salary of solders at the level of 80 000 AMD monthly (which is higher than the salaries of those officers, who serve currently in the most dangerous and distant areas). Further, for officers of the higher ranks[16] we would set the salaries at the level of 110 000 AMD monthly. It is just for keeping the hierarchy in system of payments, as this part of the army, being higher motivated in choosing their profession, is less sensitive toward what will be paid. So, we can calculate the approximate level of the expenditures that will be needed, for the shift to the volunteer army. This will be nearly 70 800 mln AMD yearly[17] to keep the volunteer army of the same size and structure which we have today.

As an insignificant amount of the current defense spending, which is approximately 21% of overall defense expenses[18], is being spent, on the salary expenses, we would not deduct it from the current expenditures, keeping them for covering any unexpected extra cost. Thus we would just increase our expenditures by extra 70 8000 mln AMD yearly. Actually, the sum that is needed to be borrowed is a little bit lower. It is the 70% of this sum, as there is a 30% personal income tax, which is to be paid from the salaries into budget. The total sum that is needed, makes approximately 49 560 mln AMD, or 6.5% of the GDP of last year.

These all means the new deficit for the budget. Can it be covered and from which sources?

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[14] The source is: the Defense Ministry of Armenia

[15] The source is: Arm Statistical Centre

[16] For sake of simplification we are regarding just two different levels of the army service, any of the existing ranks can be including into one of these groups, with the possible variation of the salaries in this interval, and the sum of the errors close to "0"

[17] That is: 60 000 (number of solders)*80 000 AMD*12 months +10 000 (officers)*110 000 AMD*12 months = 70 800 000 000 AMD yearly

[18] That is 60 000*12*1200AMD+ 10 000 000*12*60 000AMD

The possible sources of financing

Historically, defense expenditures were covered either by the tax sources or by entering into debt. For not stifling the economy we can not cover these expenses from the tax sources. As the taxes are already rather high in Armenia, any increase in the tax rate will stifle the economy. So that we will build our model on the debt financing, that is, the government will sell the TB to cover the deficit that would appear.

The other possible source, which is the customs duty increasing, can be rather contradictional in its effect, as there is a significant part of population, having its income from importing goods. On the other hand, the income from this source constitutes just from 0.5% to 1.3% of the domestic production, so that for financing the 6.5% of GDP, we will need to increase it quite significantly. On the other hand the risen duties will mean the lower import rate, and higher multiplier effect. We will keep it in the mind just as the tool but not the source.

Building the financial model

The assumptions that are done

To build our model we did three basic assumptions:

1. We assume that all the conditions like the interest rates, taxes as the portion of GDP, marginal consumption and the other data, will remain at the same level as they were for the last year.

2. We will be looking for the domestic and not foreign debt. The amount of the initial debt is to be the 6.5 % of last year GDP, which is, actually, higher than the 5.6% GDP for the annual savings. Anyway, there is a wealth, which is accumulated from the past and is not invested yet. So we will judge by the level potential demand for TB-s and the portion of subscriptions for the foreign investors (we will assume it is done proportionally). According to our estimations, the potential for the domestic demand will be somewhere around the 70 bln AMD. As at the end of the first quarter of this year the volume of the subscribed TB was approximately 22 bln of AMD, demand was exceeding the supply by 3-4 times and only the 10% of the TB were hold by the foreign investors.

Thus, we will assume it all to be the domestic debt (setting a restriction for the foreign investors), if the total amount of outstanding debt will not exceed this amount. In this case, the interest rates that will be paid for borrowing will stay at domestic market and also have the multiplier effect. Otherwise, these interests will become the leakage for our economy, decreasing the income for the budget.

3. Although, there will be an extra income for the budget, due to the positive effect, of decreased "true" interest rates and increased amount of total investment, we will ignore this effect, once, we can not estimate it.[21]

When the investment is being done, the investor hopes that it would at least come to breakeven. The amortization, on the other hand, is possible, when the future yearly benefits are able to cover and exceed the yearly cost of borrowing.

The annual cost

We have already clarified the amount of the possible extra expenditures. The particularity here is that these are the annual expenditures, as the government has to pay salaries every year. So, we have to add this sum to the outstanding debt for any year.

As the interest rate for TB-s is currently about 23%,
it will be $0.23 * 49\ 560\ 000$ AMD the cost for
the debt for the first year

The annual income

The other side that must be clarified is the amount of possible incomes. We will call the income for the budget, any difference in income caused by the realization of this project.

Once the income for the budget depends from the level of the Y, as most of the taxes are defined as the percentage of the different components of GDP, any change in level of Y will lead to the change in budget incomes. Thus, for the annual income we will have:

- the "tax portion" of the Y increased, due to the government expenditures multiplier effect. It will be
  Δ income $= t*\Delta Y$,
  where $\Delta Y = \Delta G*$ *multiplier*.
  Once the "portion" of taxes was 20.7% of GDP for last year
  and the multiplier is estimated to be equal to 1.74,
  for the first year we will have the extra income of the
  Δ income $= 49\ 560\ 000\ 000*1.74*0.207$
- beginning from the second year, we will also add the
  multiplier effect for the interests paid for the last year,
  as the additional government expenditures. We will do it, until the total
  outstanding debt is less than the 70 bln AMD, mentioned in

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[21] the "unproductivity" cost that was mentioned in the previous part will also be ignored, due to its inaccurate estimation and insignificant amount

2nd assumption. Once there is no tax on TB interest income, we will take the all interests sum as additional ΔG.

thus for the second year we will have the additional $0.23*49\ 560\ 000*1.74*0.207$ AMD of income

Will this expenditures breakeven?

The debt amortization table

(in AMD)

year	interest payment	tax income	difference	outstanding debt
1	11 398 800 000	20 530 256 378	9 131 456 378	40 428 543 622
2	9 298 565 033	24 643 474 345	15 344 909 312	65 512 177 931
3	15 067 800 924	23 885 611 746	8 817 810 822	97 122 910 731
4	22 338 269 468	25 967 420 771	3 629 151 303	133 922 303 049
5	30 802 129 701	28 590 944 462	- 2 211 185 239	176 562 031 910
6	40 609 267 339	31 645 099 459	- 8 964 167 880	225 954 743 412

As it is seen from the table, unfortunately, the costs does not breakeven.

Will these expenditures breakeven when the other conditions hold?

The sensitivity analysis that we did, has shown, that the multiplier has to become as high as the 3.09 is for the debt being amortized during the 24 years, however for the multiplier equal to 3.13 debt being amortized during 13 years. What does these figure mean? As the import is currently the main leakage for our economy, the multiplier will increase, when the percentage of the import per GDP will decrease. The multiplier equal to 3.09 means import equal to 13.4% of GDP; and the 3.13 multiplier is for the import level of 13% of GDP. This is approximately 60% lower than the current level, is it achievable? We think, it is not realist

The amortization table for multiplier equal to 3.13

(in AMD)

year	interest payment	tax income	difference	outstanding debt
1	11 398 800 000	32 069 046 361	20 670 246 361	28 889 753 639
2	6 644 643 337	39 444 927 024	32 800 283 687	24 979 223 590
3	5 745 221 426	36 368 630 204	30 623 408 778	23 245 568 451
4	5 346 480 744	35 786 636 600	30 440 155 857	21 695 166 233
5	4 989 888 234	35 528 621 398	30 538 733 165	20 046 186 707
6	4 610 622 943	35 297 879 233	30 687 256 290	18 248 684 056
7	4 197 197 333	35 052 466 073	30 855 268 740	16 283 168 955
8	3 745 128 860	34 784 948 618	31 039 819 759	14 133 102 835
9	3 250 613 652	34 492 426 326	31 241 812 673	11 781 043 801
10	2 709 640 074	34 172 437 804	31 462 797 730	9 207 999 710
11	2 117 839 933	33 822 387 224	31 704 547 291	6 393 206 058
12	1 470 437 393	33 439 448 036	31 969 010 643	3 313 949 054
13	762 208 282	33 020 529 915	32 258 321 633	- 54 618 940

For the low interest rates it does not amortized even for the 1% of interests.
It is also impossible to be amortized with the current multiplier for the higher tax rates, even with lower interest rates. Anyway, it would be difficult for the tax rate to become higher than the 20.7% of GDP because of the tax structure.

Conclusion

From GDP point of view, this shift from the draft army to volunteer one seems quite attractive, as far as it will stimulate the domestic production, and overcome some undesirable costs and consequences. It will increase GDP level by 11.4%, increasing both nominal GDP as well as the real one. From the unemployment standpoint, it will help to create new working places for about 1.9% of labor force, decreasing the

unemployment rate to 9.6%. The other benefits are of more flexible sizes and more efficient use of the national resources.

The cost of shift from the draft army to volunteer one is estimated to be approximately 6.5% of the GDP. While being positive for the economy as a whole, this will increase the debt burden for the budget. And as the financial analysis shows this burden could not be covered from the extra tax amount, which is due to the increased GDP. That means, when the current conditions will be hold, expenses will never breakeven.

Furthermore, the sensitivity analysis shows, that there are no real conditions that will be held to make this breakeven possible.

Conclusions

The aim of this work was to investigate the possibility and consequences of shift from the draft army to volunteer one, not for the sake of stimulating the economy by increasing defense expenses, but for sake of distorting the internal equilibrium, by the means of the decreasing risk, that was achieved, since the equilibrium at Nagorno-Karabagh has been achieved. However it did not take into consideration the effect that this decreased interest rate will have for the economy.

As a result, the research proves that although this shift will increase the portion of the defense expenses in GDP from 4% to approximately 9.4%, this increase can be quite simulative for our economy. It will be positive for such economic indictors as the GDP or unemployment level are. According to our estimations, the first one will be increased by the 11.4%, while the other one can be decreased for the 1.9%. Anyway, this spending will bring the new deficit burden for the budget. This deficit burden for the budget will be unsustainable.

At this point we think, that the volunteer army, being still important is not affordable for our budget, and thus, for economy as a whole.

Appendix 2(A)

Armenian military

Military branches: Army, Air Force and Air Defense Aviation, Air Defense Force, Security Forces (internal and border troops)

Military manpower—military age: 18 years of age

Military manpower—availability:
males age 15-49: 922,124 (1999 est.)

Military manpower—fit for military service:
males age 15-49: 732,495 (1999 est.)

Military manpower—reaching military age annually:
males: 32,052 (1999 est.)

Military expenditures—dollar figure: $72.1 million (1999)

Military expenditures—percent of GDP: 4% (1999)

Appendix 2 (b)
The military concerned data for some selected countries

Annual Report on Military Expenditures, 1999
Submitted to the Committee on Appropriations
of the U.S. Senate and the Committee on Appropriations of the U.S.
House of Representatives
by the Department of State July 27, 2000, in accordance with section
511(b) of the Foreign Operations, Export Financing, and Related
Programs Appropriations Act, 1993

PHILIPPINES

REPORTING PERIOD: January 1 to December 31, 1999.
AMOUNT: USD 1.015 billion at 39.09 Peso to 1 USD.
PERCENTAGE OF GDP: 1.3 percent.
PERCENTAGE OF BUDGET: 6.6 percent.
SIZE OF THE ARMED FORCES:
   The AFP has a strength of 107,000 with the following breakdown for the component services:

RUSSIA

REPORTING PERIOD: January 1 to June 3, 1999.
AMOUNT:
   The national defense budget was 40.246 billion rubles, or approximately USD 1.7 billion (the average
exchange rate for the first half of 1999 was 1 USD equals 23.6897 rubles). Actual expenditures for the first
half of 1999 were 40.640 billion rubles, or approximately USD 1.716 billion, i.e. 100.9 percent of the
budget was fulfilled.

PERCENTAGE OF GDP:
   Budgeted national defense expenditure was 2.183 percent of GDP, and actual expenditures were 2.205
percent
   of GDP for the first half of 1999.
PERCENTAGE OF BUDGET:
   Budgeted military expenditures were 14.253 percent of the Russian federal budget and actual
expenditures were 14.937 percent for the first half of 1999.
SIZE OF THE ARMED FORCES:
   As of 1 January 2000, the authorized peacetime strength of the Russian Armed Forces was reduced to
1.2 million.

SAUDI ARABIA

REPORTING PERIOD: January 1 to December 31, 1999.

AMOUNT: USD 8.3 billion (estimate). The Saudi government does not have separate line items budgets for defense and national security. Because they do not identify them separately, defense spending includes Ministry of Interior expenditures and is therefore somewhat misleading.

PERCENTAGE OF GDP: 13 percent.

PERCENTAGE OF BUDGET: 41.65 percent.

SINGAPORE

REPORTING PERIOD: Fiscal Year 1999 runs from April 1, 1999 to March 31, 2000.

AMOUNT: SD 7.27 billion or USD 4.30 billion (this is the budgeted figure. Since the fiscal year has not ended, actual expenditure may differ).

PERCENTAGE OF GDP: 5.11 percent.

PERCENTAGE OF BUDGET: 24.9 percent.

SIZE OF THE ARMED FORCES:

Virtually all citizen males are required to serve two years in the military. Singapore has approximately 55,500 active duty personnel, of whom approximately 45,000 are army; 6,000 air force; 4,500 navy. Singapore also has approximately 250,000 reservists ("national servicemen"). Singapore's armed forces have played limited roles in a few international peacekeeping operations, including a small deployment to East Timor in 1999.

COMMENTS ON ITS POLITICAL ROLE:

The Singapore military is under civilian control and plays no direct role in political affairs.

SLOVAKIA

REPORTING PERIOD: January 1 to December 31, 1999.

AMOUNT: USD 358 million.

PERCENTAGE OF GDP: 1.67 percent.

PERCENTAGE OF BUDGET: 8 percent.

SIZE OF THE ARMED FORCES:

The Slovak army currently is sharply reducing its manpower from the Combined Forces in Europe agreement (CFE) maximum of around 46,000 to a projected 35,000 members by the end of the year 2000. Civil defense forces in the Ministry of Interior have about 2,000 members and the railway defense force has about 1,850. Units of the Slovak army participate in international peacekeeping operations.

COMMENTS ON ITS POLITICAL ROLE:

The armed forces do not interfere in domestic politics.

CAN CIVILIAN AUTHORITIES APPOINT AND REMOVE MILITARY OFFICERS?

Civilian authorities appoint and remove military officers.

THAILAND

REPORTING PERIOD: January 1 to December 31, 1999.

AMOUNT: Baht 77.07 billion.

PERCENTAGE OF GDP: 1.4 percent.

PERCENTAGE OF BUDGET: 9.0 percent.

SIZE OF THE ARMED FORCES:

There are about 290,000 personnel in the Thai armed forces, including approximately 180,000 in the army, 55,000 in the air force and 55,000 in the navy (including marines).

COMMENTS ON ITS POLITICAL ROLE:

Despite an economic crisis that battered the nation and drove the government of retired former Army and Supreme Commander Chavalit Yongchaiyud from office in 1997, the military avoided overt

involvement in national politics in 1999. Thailand has successfully held four successive peaceful transfers of power between civilian leaders, including three national elections, since the violent suppression of pro-democracy demonstrations in May 1992. The current Army Commander, General Surayud Chulanont has publicly stressed his determination to follow the orders of the Royal Thai Government's (RTG) civilian leaders and has done so in practice. General Surayud has concentrated on improving military professionalism and competency, and has tried to reduce the army's role in politics, diplomacy, and business. Surayud broke with tradition by pointedly refusing to sit in the Senate after his appointment in October 1998; and while other senior military commanders continued to serve in the appointed Senate until March 2000, the 1997 Constitution banned active duty offices from running in the first Senate elections held that month. In a further sign of ebbing military influence, retired officers did much worse than expected in the Senate elections.

TURKEY

REPORTING PERIOD: January 1 to December 31, 1999.

Turkey publishes a complete breakdown of defense spending every two years. The 1999 budget (adopted in late in July due to the April national/parliamentary elections) shows only partial and unadjusted figures.

AMOUNT: 2.6 quadrillion Turkish Lira (TL) or USD 6.3 billion.

PERCENTAGE OF GDP: 3.0 percent.

PERCENTAGE OF BUDGET: 9.0 percent.

SIZE OF THE ARMED FORCES:

Total size of the Turkish armed forces is 566,600, divided among the army (450,000), air force (65,000) and navy (51,600). In addition, there is a separate constabulary force, the Jandarma, which is responsible for maintaining order in rural areas. In peacetime, the 150,000 Jandarma personnel fall under the direction of the Interior Ministry rather than the Turkish General Staff (TGS). However, the Jandarma commander and many senior officers are serving army officers. Coast guard personnel (1,050) are navy personnel assigned to coast guard missions. The coast guard falls under the direction of the Interior Ministry in peacetime. Turkey participates in a variety of peacekeeping operations.

COMMENTS ON ITS POLITICAL ROLE:

The Turkish military plays a significant but increasingly less obvious role in domestic politics. It is the most respected institution in Turkey and takes very seriously its self-appointed role as guardian of the Ataturk legacy of a secular, Western-oriented Turkey. The military has staged three direct coups since 1960, most recently in 1980, which was prompted by a collapse of Turkey's internal economic/security situation. Turkey returned to civilian rule in 1983, and the military recently has pulled back from an overt role in politics. However, TGS retains strong political influence exercised through the National Security Council (NSC), a constitutional advisory body chaired by the President which consists of five civilians (the President, the Prime, Foreign, Interior and National Defense Ministers) and five general officers (Chief of TGS, the three service chiefs and the Commander of the Jandarma). The current secretary-general of the NSC is an active duty general of four-star rank. The Islamist-led government of Necmettin Erbakan resigned in June 1997, in large part because of TGS pressure on the government to adhere to secular practices. The succeeding government of PM Yilmaz faced continued pressure to implement the agenda first enunciated at the NSC in February 1997 when Erbakan was Prime minister. The current TGS leadership of General Kivrikoglu has adopted a much lower public profile than its predecessors. Essentially TGS has given the left-right/nationalist coalition of PM Ecevit a vote of confidence by supporting a variety of economic and human rights reforms, the decision to delay parliamentary consideration of the death penalty for PKK terrorist leader Ocalan and the lifting of the state of emergency in one province of the Southeast. TGS has formed committees to consider the impact on the Turkish military of the EU decision to offer Turkey candidacy status. Any changes in civilian-military relations in Turkey will emerge in the context of Turkey's compliance with EU criteria for membership.

CAN CIVILIAN AUTHORITIES APPOINT AND REMOVE MILITARY OFFICERS?

The three armed services are subordinate to TGS, which is directly under the authority of the Prime Minister in peacetime and the President when Turkey is at war. The Defense Ministry has several interrelated functions with TGS (primarily defense procurement) but is separate and plays no significant role in formulating TGS policy. The Chief of the TGS has a higher protocolary rank than any other minister other than the prime minister. The president and the prime minister sit on the Supreme Military Council (SMC), which meets at least once a year, but recently every six months, to decide upon all flag/general officer promotions, assignments and retirements. It also rules on expulsions from the services, usually for membership in proscribed religious or extremist (usually Islamic) organizations. The prime minister normally appoints the chief of the TGS, and there has been only one instance in the last 20 years when the prime minister has not selected the candidate proposed by the senior military leadership. Other than participation in the SMC, the civilian leadership is not normally directly involved in any promotions, assignments or retirement selections.

UKRAINE

REPORTING PERIOD: January 1 to December 31, 1999.
AMOUNT:
Ukrainian Hryvnia (UAH) 1.562 billion or USD 300.384 million
PERCENTAGE OF GDP: 1.2 percent.
PERCENTAGE OF BUDGET: 2.5 percent.
SIZE OF THE ARMED FORCES:
The manpower strength of the Ukrainian armed forces remains difficult to establish exactly. Recently Ukrainian Defense Minister Kuzmuk announced the intended end-state of military personnel drawdowns is 310,000 service members and 90,000 civilians. Ukraine currently has about 240 troops serving with KFOR in Kosovo, as well as minor contingents deployed to several UN missions elsewhere.
COMMENTS ON ITS POLITICAL ROLE:
Some active duty military officers have run for office and served in elective bodies such as the National Parliament. But they have seldom played a significant role in those bodies. Nor has the armed forces played an active part in Ukraine's broader political life. Most observers believe the Ukrainian armed forces would be unlikely to support a coup or extra-constitutional action. Apart from traditions of extreme hazing of their own recruits, the Ukrainian armed forces have a generally good human rights record.

CAN CIVILIAN AUTHORITIES APPOINT AND REMOVE MILITARY OFFICERS?
The President of Ukraine, as commander-in-chief, exercises the constitutional authority to appoint and remove military officers. Under the constitution, parliament does not "advise and consent" to these actions, except at the cabinet-minister level.

DOSFAN Home Page
Political Military Affairs Home Page

Questionnaire

1. How old are you?

20- 22   22-25   25-30

2. Did you serve in Army?

Yes   No

3. Did you work before Army ?   Yes   No

If yes, do you return to the same position after serving?

Yes   No

4. How many times have you been promoted after you return from serving (or during these 2 years if you did not serve)?

0   1   2   3

5. How much was your salary before serving (or two years ago if you did not serve)?

Less than $ 50 $50 -$100 $50-$150 $ 150-200

6. How much is your salary currently?

$50 -$100 $50-$150 $ 150-200   more than $ 200

The results are :

1ˢᵗ group: those who served	*2ⁿᵈ group: those who did not serve*
1) 1 person was promoted twice	1) 1 person was promoted 3 times, 4 persons- twice, 6 persons – once and 4 persons- none

6 persons were promoted 1 time and 8 persons were not promoted at all

2) 1 person has changed his salary group $100-$150 to more than $200
4 persons to $ 150-$ 200
5 persons from $50-100 to $ 100-$ 150

2) 3 persons had the salary increase form from $100-$150 to more than $200,

5 persons to $ 150-$ 200
         7- $100-150

and 5 remain at $50-$100 group

Appendix 4

Government expenditures multiplier calculation[1]

The multiplier for the government expenditures is being derived from the Keynesian equation of GDP.

$$Y = c(Y - t * Y) + G + I + M - x * (Y - t * Y)$$

Where:

Y   is GDP level;
c   is the portion of income, which is being used for consumption;
t   is the portion of GDP, which was paid as taxes;
G   is amount of government expenditures;
I   is amount of investment that were done during the year;
x   is the portion of income that was used for buying foreign goods and   services

Once, multiplier is to express sensitivity of Domestic production toward government expenditures, we can derive it as coefficient of dependence of Y from G, from the given equation.
Thus we will have

$$Y = (G + I + M) / (1 - c + t*c + x - t*x)$$

So that the multiplier or coefficient for the government expenditures will be

$$Multiplier = 1 / (1 - c + c*t + x - x*t)$$

The problem here is that this formula is true for the system, where the GDP is the only source of the income for population. For the systems like ours, where there are the other sources, like foreign transfers, some adaptation must be done to come to the initial formula. Anyway, we would not change the income level in formula above, as we want to have the relationship between G and Y, while such variables as foreign transfers or foreign income, actually do not depend on the Y level.

Thus to calculate the magnitude of the multiplier we will do two assumptions:
Actually there is the linear dependence between the consumption and income level, the formula is

$$C = \bar{C} + c * Y$$

Where:
        C is the overall level of consumption

        $\bar{C}$ is the constant level of, which do not depend on the income level
        c expresses the sensitivity of the C to income
        Y is the level of income;
We will ignore the level of constant consumption and consider all the C depending on Y level, as the better approximation is not available
we will assume that all the imported goods and services are being consumed by the private sector, while, in deed, the part of them may be consumed by the government.

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[1] Is calculated for the data of 1999

Then:

3. we will take for t, the tax revenue of the budget in terms of fraction from GDP. We will deduct from GDP all the paid taxes together, as it is being done to show the amount of income available to consumption. For last year it was 16.7% or 0.167

4.for c calculation, the 91%[2] of GDP was used by the private sector, when the available income was equal to

100% of GDP + 2.8% of GDP (the balance on foreign income)+
+9.7% of GDP (of foreign transferees)-
-16.7% of GDP (for the total taxes paid)= 95.8% of GDP

thus, for the 95.8% of GDP income the 91% of GDP was consumed, that is 95% of any dram of available income is being consumed by private sector. Or c is equal to 0.95

the same logic will be used for x calculations. As it was said x is the portion of the any the any dram of income, that was used to buy foreign goods and services. Last year here level of the imported goods and services was 42%[3] of GDP, and the level of available income was 95.8%. So that for the any one dram of the available income the 43.8% is being used for buying the foreign goods.

Thus the government expenditures multiplier for the last year was equal to

Multiplier = $1 / (1-0.95+0.95*0.167+0.438-0.438*0.167)=1.74$

That is the government expenditures multiplier for the last year was equal to the 1.74

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[2] actually it was 94.7%, but as it includes the humanitarian aid of 3.57%, we will take only 91% of GDP
[3] again we have deducted the humanitarian aid

Appendix 5

Treasury bills gross issues on the primary market

Date	The weights Average %	The total volume	Up to 28-days		Up to 91-days		Up to 182-days		Up to 273-days		Up to 364-days	
			mln drams	yield %	mln drams	yield %	mln drams	yield %	mln drams	yield %	mln drams	yield %
01/98	49	2 721	0		1 038	49.48	683	50.26	700	49.78	300	48.20
02/98	53	2 805	0		701	53.10	862	53.98	600	55.80	642	50.84
03/98	60	2 870	73	53.71	417	53.10	1 124	61.23	675	61.90	581	63.88
04/98	51	3 100	100	45.78	1 200	47.67	500	49.46	900	56.16	400	54.33
05/98	39	3 100	0		800	38.78	1 400	39.98	500	37.89	400	42.57
06/98	35	3 900	0		800	34.22	1 100	35.64	1 000	34.30	1 000	35.94
07/98	39	3 800	137	31.48	1 796	35.96	756	35.55	511	45.52	600	50.59
08/98	36	4 028	0		800	34.76	1 028	39.87	1 200	35.35	1 000	35.16
09/98	42	1 367	100	37.28	144	48.11	711	42.95	412	40.53	0	
10/98	43	2 570	100	38.18	1 450	43.74	633	44.57	387	40.60	0	
11/98	46	3 435	100	39.11	1 191	46.10	1 542	46.56	600	47.31	2	48.08
12/98	57	2 874	725	50.54	1 010	58.73	939	62.14	200	50.05	0	
01/99	66	2 692	150	65.65	1 719	63.23	423	65.63	400	77.55	0	
02/99	62	3 472	164	60.70	1 100	60.70	1 004	63.05	618	66.45	586	62.76
03/99	59	4 142	0		2 295	59.86	1 658	59.58	189	67.99	0	
04/99	66	3 849	0		1 896	65.23	1 560	67.18	393	68.92	0	
05/99	53	4 250	200	43.89	1 050	52.47	1 400	55.15	1 100	54.23	500	55.90
06/99	56	4 755	242	41.16	1 800	53.89	914	55.35	1 199	58.31	600	68.65
07/99	54	3 832	147	49.82	2 000	51.55	800	53.20	500	58.07	385	69.31
08/99	52	4 006	150	32.43	1 100	43.96	1 600	48.30	534	67.59	622	70.96
09/99	44	4 541	0		2 350	42.25	1 550	45.69	341	48.73	300	48.47
10/99	46	6 100	0		3 450	44.01	1 550	48.56	500	48.75	600	49.06
11/99	45	11 745	800	43.55	7 716	43.26	2 489	49.57	740	49.19	0	
12/99	48	4 276	800	43.56	0		2 412	49.98	1 064	49.93	0	
01/00	42	3 147	0		301	36.80	1950	43.00	896	42.20	0	
02/00	30	4 390	0		877	30.05	2313	28.20	900	30.20	300	35.07
03/00	25	2 950	0		150	21.00	1200	25.90	1 600	25.70	0	

Source: CBA.

The coefficient of correlation between the average % and total volume is negative " – 0.067"[1]

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[1] Anyway, it is not due to structural changes in the different terms volumes, because, while for the two shortest terms the correlation is positive, that is "0.038" and 0.1027 respectively; for the tree other terms these coefficients are negative "-0.1809", "-0.46", "-0.139" respectively

Appendix 6

Commercial banks: deposits and loans

(in thousands of drams)

date	Total Volume Of TB	Loans			
		Dram loans		USD loans	
		volume	% rate	volume	% rate
01/98	2 721 000	2 092 705	65	11 276 216	20
02/98	2 805 000	1 766 999	55	20 909 795	56
03/98	2 870 000	2 866 612	67	8 039 145	27
04/98	3 100 000	1 988 228	55	10 718 082	33
05/98	3 100 000	1 400 774	60	15 069 558	40
06/98	3 900 000	1 284 063	55	6 363 826	37
07/98	3 800 000	2 439 500	57	21 863 888	35
08/98	4 028 000	2 901 746	46	20 990 712	15
09/98	1 367 000	3 149 755	52	32 448 324	16
10/98	2 570 000	5 271 382	42	22 703 913	18
11/98	3 435 000	4 427 772	44	22 831 839	15
12/98	2 874 000	5 023 756	51	27 585 578	38
01/99	2 692 000	1 891 646	67	9 635 063	30
02/99	3 472 000	3 088 249	42	16 088 398	19
03/99	4 142 000	4 655 199	43	34 401 772	35
04/99	3 849 000	3 292 976	51	12 464 438	25
05/99	4 250 000	3 533 834	43	11 535 708	25
06/99	4 755 000	3 926 712	47	12 134 705	27
07/99	3 832 000	2 171 260	44	13 609 040	23
08/99	4 006 000	4 915 384	39	27 422 255	15
09/99	4 541 000	4 115 046	44	25 012 437	15
10/99	6 100 000	6 622 656	34	44 720 856	12
11/99	11 745 000	4 315 465	39	22 878 881	14
12/99	4 276 000	4 772 730	37	12 276 645	37
01/00	3 147 000	4 803 043	44	21 080 400	13
02/00	4 390 000	5 440 521	35	21 052 124	17
03/00	2 950 000	3 049 448	31	20 235 332	19

Source: CBA.

1) The coefficients of correlatons are "0.3213" for the AMD loans and TB volumes; and "0.17778" for the USD loans and TB volumes

2) for the volume and interest rate of the AMD loans there is quite strong negative correlation of "-0.6979"; while for the USD loans this correlation is much weaker "-0.3161"

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