UNIVERSITATEA DIN PITEŞTI

Facultatea de Ştiințe Economice

BULETIN ŞTIINȚIFIC

SERIA ŞTIINȚE ECONOMICE

(SCIENTIFIC BULLETIN – ECONOMIC SCIENCES)

Nr. 7 (13)
PITEŞTI - 2008

ISSN: 1583 - 1809

CONTENTS

Students: The Overlooked Products in Academic Marketing

University Professor PhD Woodrow H. SEARS
College of Social Science Vilnius, Lithuania
woodysears@gmail.com

Abstract: In the recent past, anyone with a college or university degree was certain of employment. That is no longer the case, and even bright, energetic graduates often wait 8 to 12 months or longer for entry-level professional jobs. For some, there really may be no jobs, but for most, the delay and disappointments result from not knowing how to market themselves in today's competitive environment. "Good" jobs are increasingly scarce, and institutional reputations suffer as students wait for jobs or fail to impress prospective employers. This paper describes a replicable model for an intensive job-search training program that schools can offer to meet this new imperative.

Keywords: Graduates, job search training, new educational imperative, "good" jobs, delayed entry to careers, students as "products", new educational obligations.

In the past year, a university administrator boasted that more than 90 percent of his graduates found jobs within a year after completing their studies. How many found "good" jobs, foundations for a career? How many took any job offered, out of desperation and without regard to their academic preparation? And how many had no commitments to a profession? (One jobless student said, "Well, maybe public relations? Or maybe logistics? What do you think?")

The mechanics of finding a job are changing, the job market is becoming more competitive, and many college students are ill-equipped to enter the job market by means other than looking at newspaper want ad and electronic bulletin boards.

It is certain that many potential contributors are kept out of useful employment for a year or more because neither they nor their schools "package" them as the "products" of colleges and universities, nor take themselves to the job market in an intelligent and systematic manner. The job-search game has changed, and the new rules will certainly last our lifetimes.

Trade schools promise students a job after graduation, but academic institutions frequently do not consider jobs for students their responsibility. The position of this paper is that all schools now have an obligation to equip students to be effective competitors in the job market; and further, that schools should be rated on the ease with which students find jobs, and the professional success of graduates. To have a "career center" that students can access is an inadequate response. No manufacturer would release products to the market without oversight of packaging quality, but schools fail to see their students as products carrying their reputations out into the world.

What does the market expect of the schools' products? That job applicants present themselves in a professional manner – they know how to conduct themselves in an interview, demonstrate knowledge of the company to which they are applying, know their strengths, and can speak coherently about the contributions they can make to the organization. Such capabilities can be developed, but too often result from private counseling that many students cannot afford, and that the school cannot influence.

Those capabilities can be developed among students, inexpensively and in only two weeks of intensive training. How? The basic approach was developed in England after World War Two by Bernard Haldane[1] who discovered how to assist soldiers in converting military training and combat experiences into skills needed by civilian organizations. Haldane was so successful that he took his system to America and, through a fortuitous series of connections, his approach was further developed and presented to millions in the popular job-search manual, *What Color is Your Parachute.*[2]

The book has been updated every year since 1975, and the 2008 edition opens with a stinging indictment of academic institutions. Its author, Richard Nelson Bolles, an Anglican priest, asserts that when you are looking back at your education, you realize that:

> …there are three things a good education should have given you … but in your case, did not. High school or college should have taught you … How to choose and find *a job* …. How to choose and find a *partner,* or husband, or wife …. How to *think*, and how to make good decisions.[3]

Bolles refers to these as the "three basic life skills." Though the emphasis here is on job search and launching a career, it may be useful to recall that in America, at least, it was not too long ago that it was usual to interview spouses as well as applicants before hiring someone for a high-visibility role. And as for thinking, few recent graduates seem to have encountered the concept of second- and third-order consequences, whether they are personal, professional, technical, or financial. That is, having been reared in what has been essentially a bountiful and forgiving environment, they have never learned to calculate possible consequences of their decisions (sex, drugs, rock and roll, etc.).

Of course, it has long been established that educational institutions should not stand *in loco parentis*, and this article does not suggest a change in that posture. However, it may be that most institutions have been slow to recognize and respond to developmental gaps among their students. And with modern teaching/learning technologies, such gap-closing need not compete with established academic discipline for students' time and attention.

Paralleling Bolles' life skills, what students need is (1) to learn how to "package" themselves for successful job search; (2) to develop skills in researching industries and companies with needs that match students' potential for contribution; and (3) to gain experience in mock interview situations in much the same way as attorneys acquire courtroom skills through mock trials.

Students assimilate *Parachute*'s content best by working in groups, using peer coaching along with instructor input to accelerate learning that has three main components:

1. Identifying the *success factors* that recur in each student's life; that is, innate abilities seen in successes as early as age five that will be found in most successes at all subsequent ages. When identified, these abilities become an individual's *success pattern.* Through success-pattern analysis, it is possible to identify situations in which an individual is likely to be successful, and from there it is easier to identify professional roles in which individuals will succeed.

2. Where are such roles found? Rather than scanning want ads and job postings, current job-search advice[3] directs job seekers to identify industries, then companies within them, then one in which the individual wants to work. The next step is to research that company in detail,

identify a job or an area that would be a strong match with the individual's success pattern, and then to meet people inside the company to get an interview. Yes, there are techniques that make this possible.

3. A CV and a cover letter establish work experience and credentials, but it is the interview that determines a candidate's fit with the company and its culture, with other workers, and allows individuals to demonstrate their knowledge of the company and their interpersonal skills. This is when the "package" is sold, reflecting credit on the individual and the school that "produced" him/her.

For the 10-day course proposed to the EU Erasmus Lifelong Learning Programme, the methodology involves four days of intense personal work, writing success stories and sharing them in small groups to indentify success factors. Each individual will write at least 50 stories, or fewer stories but in increasing detail. (This is why individuals working alone so often fail. Unless there is peer or coach encouragement and analysis, few individuals have the discipline to persist.)

Then one day is spent on methods for researching and obtaining interviews in target organizations. Why not more time? Students nearing graduation should be able to do this alone (though perhaps they will have developed working relationships during the course that will continue in a collaborative effort to find jobs). But more specifically, the Bolles text should be required for each student, since it provides detailed guidance on the "how to"of researching industries, companies, and specific roles and requirements.

The last five days are devoted to building interview skills – in front of a video camera. The camera is a harsh critic, and with peers and coaches commenting on what they see, no bad form goes unnoticed. Repetition to the point of fatigue drives fear out of being interviewed, even when critical and unfriendly guest interviewers appear. In this "drilling and grilling" process, students are put under the same kinds of pressures to demonstrate how they think that exist in real job interviews. The principal instructor in this pilot project was human resources manager for a high-tech firm focused on short-term profits. This is a dress rehearsal for real life in which winning the interview means getting the job. Losers get to do it all again.

This author covered some of the same ground in *The Front Line Guide to Thinking Clearly*[4]:

> *Thinking clearly*? Your company wants you to know how to identify priority tasks and to use resources effectively to accomplish them. *Solving problems?* Your company wants you to learn how to cut through confusion and to find better, faster, cheaper ways to get work done and delivered …. *Making decisions?* Your company wants you to be able to cut through the conceptual confetti to make the best possible decisions for your company … to be an activist employee who can think clearly when work gets stalled and get productive activity back in process.

In addition to building interview skills, in this part of the training, students also enhance their self-confidence, self-esteem, and overcome fear of public speaking. They learn to sell themselves with the polish of professional sales representatives, and how to build relationships – being rewarded with applause from their peers and coaches when their performance improves. These attributes are at the heart of interpersonal competence which, in the final analysis, may be

the ultimate criterion reference that recruiters and their companies seek; i.e., will this candidate mesh well with colleagues and clients, and turn opportunities into profits?

Life is not fair. Some people get advantages denied to others. When schools can give their graduates this kind of competitive edge, and for so little money, it is almost criminal not to do it. Further, giving students the kind of professional polish this training provides will enhance the school's reputation in the business community.

When schools send technically-qualified students who are also interpersonally-competent into local and international job markets, they gain a powerful public relations advantage. It creates wider possibilities for all kinds of partnership agreements between educational institutions and members of the business and industrial communities. It is the best kind of public relations, and perhaps the most relevant kind of reputation building. And it is a powerful gift to students.

Stay tuned. The model described here may be ready for replication by the 2009 Fall semester. Or, do it yourself. The references listed here are a tiny fraction of the resources available on the internet.

References:

1. Richard Knowdell. "The Contributions of Bernard Haldane to the Career Development Profession," Career Planning and Adult Development Journal, Vol. 19, Number 3.

2. Richard Nelson Bolles, *What Color is Your Parachute: A practical manual for Job-Hunters and Career-Changers.* Berkeley, California: Ten-Speed Press, 2008.

3. Bolles, pages 3-4.

4. Woodrow H. Sears, *The Front Line Guide to Thinking Clearly.* Amherst Massachusetts: Human Resource Development Press, 2007, page 2.

About the author:

An instructor in the Erasmas Programme at the College of Social Science in Vilnius, Lithuania, Dr. Sears writes for the Cincom *ExpertAccess* e-newsletter, the British Chamber of Commerce Paper in Vilnius, and his most recent book is *The New Manager's Primer: Working with people at work* (September 2008), published by HRD Press in Massachusetts, along with five other titles in 2007. His consulting specialty is Resolving Organizational Conflicts.

EU and Western Balkan: ambivalent relationship?

Assistant Professor PhD Slavica MANIC
University of Belgrade, Faculty of Economics
11000 Belgrade, 6 Kamenicka St.,
slavica@one.ekof.bg.ac.yu

Abstract
Mentioning of non-harmonious process of globalization was intensified in the mid-1980s and it coincided with an occurrence of accelerating economic globalization. Some strong globalizing tendencies have been noticed at European space, but they turned to process advancing rather regional (like EU) than global integration. These regional processes surely have some positive consequences, but they also produced negative implications for actors at European economic scene, causing emergence of two categories of participants, having active or passive role in globalization decision taking.
Contradiction between proclaimed integrative processes (persuading about the necessity and inevitability of economic integration) and actual state of affairs (asymmetrical interdependence, making further economic integration more difficult) has caused continual redefining of Europe's conceptual moves. When EU realized that mission to create and impose its own, specific globalization mode has not been widely acceptable, it decided to change the tactic and apply well known (but a little bit modified) globalization mode "at home". That is why this paper is conceived: a) to answer has the above-mentioned decision impeded realization of its latent wish to create counterbalance to USA's dominance; b) to find out what were the consequences of such decision for Western Balkan countries and why their relationship with EU can be labeled as ambivalent one.

Keywords: *integration, globalization, European Union, Western Balkan countries*

1. Introduction

Regarding contemporary economic life, we can easily notice that the world economy is characterized by unprecedented internationalization of economic activity. The evidence of increased level of international economic relations is, however, very often used to substantiate fully and truly global world economy. The real state of affairs is in a certain extent different: only few advanced countries constitute the greatest part of international economy (Glyn, 2004; Rauch, 2005; Veseth, 2005; Barry and Slater, 2005) and only two actors (USA and EU) were most often mentioned as global ones.

Being more homogenous, USA generally experienced less trouble to adapt to globalization tendencies. At the same time, EU (due to its constantly being faced with heterogeneity problems followed by high adjustment costs caused by further enlargement) has become "a battleground for globalization proponents and opponents" (Hooghe, 2003, p. 3). The former promoted global interdependence as the goal Europe should strive to, while the latter insisted on protecting and defending "old" European values from global attacks. Proponents of globalization dominated over opponents, which certainly influenced the way EU (as the whole) responded to globalization.

Being interested in causal mechanisms accounting for shifts in European strategy, we are first going to analyze has EU reacted appropriately and, later on, whether potential candidates (at the "periphery") happened to be "collateral damage" of that (changed) tactic.

2. EU as globalisation actor

The ways of carrying out the strategy labelled "EU as globalization actor"[1] were matter of disagreement even between those who considered globalization as anticipated and expected phenomena.
Some of them claimed that European globalization path is supposed to be in accordance with and dependent on widely accepted US model. EU is expected to emulate USA, taken as a model of successful globalization player and the example to be followed, in order to create (through step-by-step enlargement procedures) "United States" of Europe, as vital economic and political entity.[2]

Others (Magala, 2004, p. 15; Veseth, 2005; Went, 2003) supported opinions defining globalization not as a natural process (led by invisible hand), but rather as US-dominated ideology, being shaped in a way not applicable all over the world. That is why they insisted on the idea that gradual integration of Europe offers *an alternative* to process of globalization (imposed by USA), by meeting the challenges of globalization instead of being run by them.

At the beginning, creating of integrated European economic space ("Europhoria", Bohle, 2006, p. 67) was predominantly of "resistance" type and motivated by efforts to restore global competitiveness of Europe vis-à-vis the USA (through concrete steps and strategy of neo-liberal restructuring of the EU). Further acceleration of European integration (at the end of previous century) can also be treated as appropriate "direct response to problems attributed to globalization" (Hooghe, 2003, p.2), motivated by eroding competitiveness of Europe's economies (comparing to that of USA), as well as by theirs not being adjusted to globalization tendencies.[3]

Europe had three strategies, necessary for economic recovery, at its disposal: national, global and regional. Choosing of regional strategy was based on high intra-European interdependency (trade with other EU countries has been growing constantly – Hooghe, 2003, p. 16), bringing significant cumulative benefit (measured by percentage of aggregate GDP) in integrated European market. This way single market project, as regional strategy, gained widespread support over global strategy. And no matter whether the creation of such market was motivated by the desire for political unification of Europe, or inspired by its neo-liberal restructuring necessary for competitive battle with USA,[4] the very idea promised "to regain control over the forces of globalization" (Zielonka, 2006, p. 3).

Generally speaking, Hooghe concluded (2003, p. 28) that those who were sticking to regulation of globalization in Europe (expecting European integration to be helpful in that sense) won (at least temporarily) the battle with proponents of neo-liberalism (who insisted on import of globalization in Europe). So, at first glance, it was Europe's reaction to globalization (means to cope with it), but further deepening of interdependence in Europe had as a result EU became a withstanding actor in the world scene.[5] In the sense of achievements and potential it expressed at

[1] Hooghe has considered European Union as "the specific embodiment of globalization in Europe", see: Hooghe, 2003, p. 4
[2] In international affairs EU "consistently acted as regional subordinate of the US" (Gowan, 2001, p. 86). Accepting the attitude that, generally speaking, globalization can be understood as an inevitable process, European Commission (2002) emphasized its almost neutral character and insisted on continuality of European pro-globalization course.
[3] European integration can be treated at the same time as dependent variable (under the influence of globalization) and independent variable (example of globalization, characterized by specific features): Hooghe, 2003, p. 36.
[4] The desire for political unification rests on the idea to create political entity with its own identity, while neo-liberal restructuring represents the trial to make United States of Europe.
[5] There are authors rejecting the claim that EU enlargement was a kind of response to globalization, so it could not become the agent of globalization pressures in Europe. According to them, EU behaved quite the contrary: it first

the time, EU had neither necessity to be skeptical of its future (Kuhnhardt, 2002, p. 39), nor any "reason to have an inferiority complex" (Went, 2003, p. 10).[6]

However, those who were sticking to European mode of globalization (as new, better and quite the opposite to the one made in USA) explained it in a little bit confused way. Enlargement of the EU, according to their opinions, enabled the existence of diversified, potential responses to globalization, which could be "comparative" advantage of Europe in creating its particular answer to global challenges (i.e. "global modernization with a human face" – Magala, 2004, p. 14 – if such "ideal" is achievable at all). In that sense, in economic field Europe should promote further steps forward by developing the model which combines equity with efficiency in order to achieve proper government of European economy (Majocchi, 2004, p. 3).[7]

This idea sounds great, if it is taken for granted. But, it is also a vague concept, with no ground in reality. On top of everything, offered arguments did not solve the dilemma: whether globalization limited and impeded European integration or simply broadened it. So, alternative concept of globalization, supposed to be made in EU, cannot be created easily, particularly when you keep in mind not-clearly determined goals (no matter whether they were "imported" of self-imposed). Nor can it (even as well prepared and justified one) preempt EU from being occupied with current issues of economic integration. Due to European internal diversity and arising problems connected to further integration processes (EU countries do not constitute a homogenous entity, they are much less unified than US), no wonder that economists perceive it as a mission hardly to be carried out. Newcomers are underperformers (comparing to EU-15) and will take almost a half of a century to catch up to core EU members in main indicators of development (Niroomand and Nissan, 2007, p. 366, 376). In that sense, previous enlargement steps (particularly last two) were threatening to bring European economy to a standstill.[8]

Having finally grasped that chances for imposing another type of globalization mode to others in the global scene were minimal, EU decided to apply "at home" a little bit modified version of well known mode of globalization. In the next part of the paper we shall see what consequences the above-mentioned decision produces.

3. "EUROPHORIA" and its consequences

Development of EU is characterized by two important processes: deepening and enlargement. Although both processes were promoted by those trying to establish new tendencies of globalization (supremacy of transnational capital), they were shaped in quite different ways. The deepening was led by so-called "embedded neo-liberalism", whereas enlargement was followed by its "market-radical" version (Bohle, 2006, p. 57-58).
After the decision for eastward enlargement (in 1993.), the announced newcomers were on some kind of stand-by, i.e. they were expected to continue to support whatever EU proposed, no matter they were not promised the exact time of accession. Applicant states were supposed to fulfill set

challenged the dominance of the US (in the 80's) and then, by promoting European ideas globally, created alternatives to US policy and, at the same time, forged European identity, i.e. "put its own mark on globalization" (Heisenberg, 2004).

[6] Quite the opposite, according to its performances, Europe has to be aware of its actual position – the "big player" expected to "step out of the shadow of the US and to start developing and implementing its own progressive agenda for a different … globalization" (Went, 2003, p. 14-15).

[7] As economic project, integration reduces exposure of European economies to globalization problems, so, "it is not part of globalization, but has potential to supporting it by making it socially bearable" (Vobruba, 2004, p. 10).

[8] Jason Saving compared some performances of EU and USA in the period 1995-2005. He concluded that US has grown faster owing to its competitive economic policies which, in globalization era, finally accomplished. From the other side, EU stands at policy-crossroads because two conflict strategy of integration are facing off (for or against liberalization); see: Saving, 2006.

of political and economic conditions as a prerequisite for membership in the EU. These conditions have been evolving over time in the sense requirements were re-shaped, re-defined and became even severe and tougher. So, in spite of the fact these countries adopted neo-liberal reform model, perspective of membership was conditioned by new, additional ("self-evident"- Bohle, 2006, p. 70) reform requirements.[9]

In return, they were supported by receiving some financial aid (Barnes and Randerson, 2006, p. 353; Hooghe, 2003, p. 10), but rather modest comparing to existing members, which made the already complicated transition even harder. From the standpoint of Eastern Europe, EU represents the incarnation of economic prosperity and integration. That is why they were particularly receptive to the ideology of economic liberalism: it was considered to be at the same time the aim and the means of achieving "return to Europe" (Bohle, 2006, p. 74) - radical alternative to their previous experience, as well as mobilizing factor necessary for transformation processes. Being in specific situation (and overburden with economic and other type of problematic inheritance), they have no chance to resist to the "passive revolution" created and organized by transnational capital.

Although countries were officially invited to join "the elite club" (Lister, 2002, p. 12; Barysch, 2006, p.3) and more or less were given economic help to do so, imposing of political and economic conditionality and "aggressive" export of rules demanded to satisfy (particularly for those would-be-members), made latest enlargement of EU quite similar to "an imperial prototype" (Zielonka, 2006, p. 5). That is why structural asymmetry (Bohle, 2006, p. 1; Zielonka, 2006, p. 6), i.e. the existence of dominant actors, as well as peripheral ones (with different status), is one of the main features of EU.[10]

This asymmetry is additionally "fed up" owing to enormous differences between "old" and "new" EU members. Judging by economic performances, the significant gap between existing members and applicants was noticed, i.e. countries included in enlargement to the east, are less developed – income levels of members belonging to 2004 enlargement "were on average 46.5 per cent of the rest of the EU" (Barnes and Randerson, 2006, p. 351). Also, the information and technology gap (so-called digital divide) in the EU is widening substantially with any new enlargement (Hubregtse, 2005, p. 168). This obvious fact serves as an argument that the mere, starting influence of the EU is not sufficient condition (although it is necessary) for preventing "excluding" character of globalization.[11]

Realizing that these gaps could not be bridged easily (increased convergence was unlikely to achieve), a "core group" in EU (Zielonka, 2006, p. 3) offered to new-comers enough time for some kind of phased compliance with EU legislation, in order to make accession process easier.[12] This sort of exemption, however, can serve as the argument for those claiming that EU has become a regional club with two sets of members: first-class and second-class ones (Barnes and Randerson, 2006, p. 356, 360; Hooghe, 2003, p. 39).[13] So, integration probably led to less

[9] "One might argue that EU would not really qualify to join itself if it had to apply for membership based on its own treaties and their provisions" (Kuhnhardt, 2002, p.35).

[10] "The fact is that, within empires the peripheral states operate under *de facto* (if not *de jure*) constrained sovereignty" – Zielonka, 2006, p. 6.

[11] Divergence of economics was justified by EU intention to create hospitable environment for coexistence of different systems (it is considered to be gentleman's club where economic compromises are made) in order to shield member states from globalization (Heisenberg, 2004).

[12] This is quite similar to so-called "*differentiated integration*" (Ochmann, 1996, p. 2).

[13] Existence of superior and inferior members completely denies constructivist idea insisting on the accommodation of interests of new members. Frankly speaking, they emphasized the importance of higher costs than benefits, but neglected true (negative) consequences of enlargement for newcomers. At the same time, unequal terms of enlargement were just partially confirmed by rationalist approach. They insisted on the idea that long-term geopolitical and economic interests of old members, as well as benefits for new ones (which outweighed costs of enlargement) can be very useful in explaining both divergence of rights in Europe and new members willingness to

exposure to globalization pressures for every member but, at the same time, it means more exposure within EU (Vobruba, 2004, p. 7). It is also in accordance with the standpoint claiming that EU might be understood "as dynamic component of globalization" and "a laboratory for the import and export of particular modes of governance" (Rosamond, 2002, p. 6).

Being aware of the fact that new members were offered unequal terms (social and economic rights), it sounds naturally to ask whether their treatment in a such way would be temporal and transitory or would they be given "second-class membership" once for all. The impression that it would last longer than expected is becoming even stronger when we realize what was happening with periphery of EU.

Awareness of the fact that countries left outside the EU were performing even worse, which surely would jeopardize EU position as a global actor, "tightened" enlargement fatigue[14] (made questionable credibility of further enlargement steps) and explained inclusion of additional conditions and severe monitoring meant for them (Barnes and Randerson, 2006, p. 355, 359).[15] Evolution in such direction may (and it certainly does) produce other potentially negative consequences. Tougher the conditions are, greater will be the difficulties these countries will face with in order to satisfy them.

That is why, under the circumstances where expanded and tougher criteria of conditionality became accepted "minimum" standards, Western Balkan countries considered this ever-growing requirements much more difficult to be fulfilled. However, "lack of viable alternatives to EU membership" (Barnes and Randerson, 2006, p. 353) for those left outside, in the circumstances of overall superiority of EU, put Western Balkan countries into completely inferior position – they are expected and (more or less) willing to accept any additional condition imposed by EU in exchange for "the carrot of accession" (Barnes and Randerson, 2006, p. 354; Zielonka, 2006, p. 2). Generally speaking, potential candidates have not possessed any freedom in accession negotiation process.

Slow pace of negotiations, strict and more severe conditions for membership and lack of financial support (benefits) upon joining EU, have caused a sort of disappointment in these countries, which produced, as a result, slowing of reform tasks they were supposed to carry out. That is why EU reaction was not altogether surprised: realizing that soon accession is an elusive goal, difficult and almost impossible to achieve, EU offered Western Balkan countries different sort of asymmetrical partnerships. And they reckoned without this type of inter-steps in the accession process.

On top of everything, although this area has never possessed political and other type of coherence, countries are forced to accede to neo-liberal ideas (imposed by EU), in order to create cooperation within Western Balkan region[16] which later on would make them "entity"- desirable and welcomed to join EU.

---

accept so-so compromise. However, they were wrong in the sense that both parties (old and new members) would be in better position after enlargement. For a detailed elaboration of this idea, see: Bohle, 2006.

[14] In the year 2001, only 49% of EU citizens supported the enlargement of Union (European Commission, 2001); in the year 2006 even 63% of citizens (EU-15) "blamed" enlargement for the increase of unemployment in their countries (Barysch, 2006, p. 4).

[15] Evolution of conditionality, in the sense it become much complicated, was caused by vagueness of Copenhagen criteria, followed by the absence of precisely determined and widely accepted ways for measuring country's success or failure in their fulfilling (Calic, 2005).

[16] Usually, mainstream literature offered a thesis that small, decentralized and more open country is supposed to be more exposed to globalization competition among regions, which surely caused its further active supporting and participating in activities concerning regional level. However, acceptance of such cooperation within Western Balkan's area was not originated from the region itself, but imposed by EU. This confirms Prange's idea that intensification of the above-mentioned activities was more or less influenced by outside forces (not of general

At the moment, Western Balkan countries (belonging to European periphery) seem to be somehow overlooked and not incorporated in the panoply of important globalizing activities, so they would be, certainly for a while, mere onlookers in integration or other processes. Also, they will stand for a long time vulnerable to external (either political or economic) conditions; as such, being disintegrated long ago, no wonder they are marginalized and "globalized" simultaneously.

4. Concluding remarks

Frankly speaking, identity-building of Europe has not been finished, yet. Neither globalization is. At the moment, globalization and European (globalizing) integration go on as parallel, dynamic processes "in their own right" (Kuhnhardt, 2002, p. 58). Like all empires, Europe has geo-strategic (maybe imperial) tendency to further enlargement. However, any enlargement step brings additional amount of diversity, expected to change the course of integration, as well as distribution of power within empire. Precisely, Europe is placed in this position either owing to its achievements, or due to mistakes it made either "globally" or "locally".[17]

From one side, regional cooperation and integration within EU seemed to enable its becoming global economic and political actor. This way imperial EU, relying on its diversity may become more flexible to change and ready to cope with the pressures of other big globalization actors.

From the other side, the above-mentioned forces rather produced additional costs and troubles than benefits. Nowadays, it is still overburden with internal problems (concerning continuation of integration within Europe, which is expected to make further development much difficult), as well as external ones (trying to retain a position of such type of global actor which can influence political and economic "scene" as much as US do). It has been exhausting itself potential with more and more complicated procedures concerning further (final) enlargement and, in certain extent, put aside some important parts of the deepening. Besides, EU, like any other actor in the global scene, was not able to get rid of constantly being exposed to not quite desirable consequences attributed to globalization.

Under the agenda of globalization, such behaviour certainly would not result in restoring its supremacy. Quite the opposite – this way Europe will hardly be strong enough to become the pattern for global competency. Still, EU has at its disposal the area on which it can practice certain globalizing tactic. Precisely, integration through enlargement enabled EU to impose on inferior members and would-be-members such type of globalization it has been familiar with. Having experienced only excluding consequences of globalizing tendencies, those not yet properly connected or surely far away from being integrated (like Western Balkan countries) seem to be a mere bystanders of positive globalization processes (in which they are not invited to join).

As we have already noticed, enlargement from EU-15 to EU-25 has met different obstacles, postponing the process almost for a decade (Lister, 2002, p. 11). And if this "wedding party" was said to be "delayed for fifteen years by the meanness and prevarication of the bridegroom (EU)"[18], than (under severe conditionality) "spinster" (Western Balkan) would at least expect its marriage be postponed in some indefinite future, if not cancelled.

---

globalization kind, but rather particular Europeanization processes, being happened under "protection" of EU) (Prange, 2002, p. 20-21).

[17] "… It has to bridge the existing gaps between the underlying claims of a global Europe and the challenges globalization imposes upon Europe in claiming a global role". (Kuhnhardt, 2002, p. 19)

[18] This comparison was made by Timothy Garton Ash; quotation is given according to Lister, 2002, p. 11.

Bibliography

1. Barnes, I. and Randerson, C. (2006), 'EU enlargement and the effectiveness of conditionality: keeping to the deal?' *Managerial Law*, Vol. 48 No. 4, pp. 351 – 365.
2. Barry, A. and Slater, D. (ed.), (2005), *'The Technological Economy*', London and New York: Routledge.
3. Barysch, K. (2006), 'Deepening, widening and prospects for Turkish membership', Centre for European Reform, http://www.cer.org.uk/pdf/turkey_enlargement_paper_may06.pdf [Accessed 18.04.2008]
4. Bohle, D. (2006), 'Neoliberal hegemony, transnational capital and the terms of the EU eastward expansion', *Capital & Class*, Vol. 88, p. 57 – 86
5. Calic, M. (2005), 'The Western Balkans on the Road Towards European Integration', *Internationale Politikanalyse Frieden und Sicherheit*, (Dezember 2005)
6. European Commission, (2002), 'Responses to the Challenges of Globalization', *European Economy*, Special report 1/2002
7. European Commission (2001), 'Public Opinion in the Countries Applying for European Union Membership', *Eurobarometer*, December 2001, Brussels
8. Glyn, A. (2004), 'The Assessment: How Far Has Globalization Gone?', *Oxford Review of Economic Policy*, Vol. 20 No. 1.
9. Gowan, P. (2001), Neoliberal cosmopolitanism, *New Left Review*, No. 11, pp. 79 -93.
10. Heisenberg, D. (2004), 'Can the European Union Control the Agenda of Globalization?' Martindale Center, College of Business and Economics, Lehigh University, http://lehigh.edu/~incntr/publications/heisenberg.pdf [Accessed 16. 11. 2007]
11. Hooghe, L. (2003), 'Globalization and the European Union (Shared Governance on a Regional Scale)', http://www.unc.edu/~hooghe/downloads/queens.final.pdf[Accessed 21. 02. 2008]
12. Hubregtse, S. (2005), 'The digital divide within the European Union', *New Library World*, Vol. 106 No. 1210/1211, pp. 164-172.
13. Kuhnhardt, L. (2002), 'Implications of globalization on the raison d'etre of European integration', http://www.aicgs.org/documents/kuehnhardt.pdf [Accessed 21. 02. 2008]
14. Lister, M. (2002), 'European Development Policymaking: Globalization and the Post Lome' World', http://www.edpsg.org/Documents/Dp25.doc [Accessed 21. 02. 2008]
15. Magala, S. (2004), 'Is a bigger EU good for business?' *European Business Forum*, issue 17.
16. Majocchi,, A. (2004),'The European role in ruling globalization', http://www.federalunion.org.uk/acrobatfiles/articles/29_globalisation.pdf[Accessed 21. 02. 2008]
17. Niroomand, F. and Nissan, E. (2007), 'Socio-Economic Gaps within the EU: A Comparison', *International Advances in Economic Research,* Vol. 13, pp. 365 -378.
18. Ochmann, C. (1996), 'Economics, institutional and security-related consequences of the Eastern enlargement of the European Union', http://www.eliamep/files/OP97.2.pdf [Accessed 21. 02. 2008]
19. Prange, H. (2002), 'Globalization and the Reconfiguration of Governance in Regional Innovation Policies: A Comparison of Germany, Switzerland and the Netherlands', Working Paper No. 1/2002, Technische Universitat Munchen.

20. Rauch, E. (2005), 'Is globalization exaggerated?' http://swiss.csail.mit.edu [Accessed 3. 09. 2007]
21. Rosamond, B. (2002), 'Globalization and the European Union', National Europe Centre Paper No. 12, http://www.anu.edu.au/NEC/Archive/rosamond.pdf [Accessed 20. 02. 2008]
22. Saving, J. (2006), 'Integration and Globalization: The European Bellwether, Federal Reserve Bank of Dallas, http://www.dallasfed.org/research/eclett/2006/el0605.html [Accessed 16. 11. 2007]
23. Veseth, M. (2005), 'Globaloney (Unraveling the myths of globalization)', Rowman&Littlefield, http://veseth.8bit-micro.com/ [Accessed 11. 09 .2007]
24. Vobruba, G. (2004), 'Globalization, European Integration and Welfare States: Sorting Out the Relations', http://palissy.humana.univ-nantes.fr/msh/costa15/pdf/nantes/vobruba.pdf [Accessed 16. 11. 2007]
25. Went, R. (2003), 'Globalization: can Europe make a difference?' Paper for the EAEPE Conference, November 2003, Maastricht, The Netherlands, http://www1.fee.uva.nl/pp/bin/64fulltext.pdf [Accessed 25. 02. 2008]
26. Zielonka, J. (2006), 'Europe as Empire: The Nature of the Enlarged European Union', Meeting Report 327, http://wilsoncenter.org/topics/pubs/MR326Zielonka.doc [Accessed 21. 02. 2008]

Problems of biometric methods in Authentication and Authorization Infrastructures

Assistant professor PhD Student Matthias OLDEN
2nd Chair of Business Informatics - Financial Computing
University of Regensburg, Germany
Matthias.Olden@wiwi.uni-regensburg.de

Abstract
This paper presents a research in progress that involves a multi-factor authentication mechanism applied within a federated environment. Using a combination of the classic method of password and an innovative typing behavior biometrics, the security of the authentication process will increase. At the same time, biometric specific problems like replay or template aging will play a more important role in the design and proper functioning of the system.

1. Overview

Today, with the rapid growth of internet and the introduction of Web 2.0, the rules on which the internet is based are changing. The old model where the providers and the consumers of web services were two separate entities is replaced by the new possibilities of the web technology, which allow everybody who is online to be at the same time provider and consumer. These new technology opportunities make the internet attractive to an increased number of companies, providing services to a high number of users.

This new trend has to be put in correspondence with the different security policies that companies (web providers) follow and with the influence that these policies have upon users. Seen from the side of the web providers, good security policies establish who is allowed to use a system and in which circumstances are they allowed to use it [14]. From the side of the users, the different security policies reflect in an increased number of credentials, mostly in the form of username-password combinations. The high number of passwords leads to the fact that users tend to choose simple combinations, to use the same password for more services or even forget or write them down, which brings other risks and security holes in the system.

The immediate consequence of this is that the username-password combination has reached its limits and other ways of authentication must be researched. One of them is the single sign on, which is very similar to a password manager. It has the advantage that it grants access to the users to all web services by means of a one time authentication. Despite of this comfortable feature, the single sign on does not bring more security into the system. Additionally, single sign on has to be synchronized to all the security policies of the web services that it manages, which implies that it has to be able, for example, to change the passwords from the accounts before expiration and to act accordingly to the security policies mentioned above. Another big disadvantage is the fact that, as opposed to the classical web authentication where every web provider has the responsibility for the credentials of his users, the single sign on (for example Microsoft Passport) stores this data on a central server, which makes it a target for different types of attacks [5], thus proving that the single sign on cannot comply with the expectation of the future internet world.

A solution of the problems mentioned above can be offered by authentication and authorization infrastructures (called AAIs from now on), which are combinations of services and methods that allow customers of different web services access to protected contents stored on different servers. In this case, the authentication does not take place on every server, nor in some central place, but on the server of one single company, which later submits the authorization to another requested web service.

Although the AAI represents the successor to single sign on technology, its principles of functioning are not yet clearly defined and many questions are still to be answered [7]. So far, there are implementations of different AAIs based on password technology. Nevertheless, these have all the disadvantages implied by the knowledge factor of password. In case of AAIs, where with one authentication a user is granted access to all of his accounts (thus having one single identity), it is mandatory that no user is able to authenticate as someone else. This request makes password and token based authentications inadequate in the use with future AAIs. The only authentication method which can provide protection against transmission of credentials is biometric authentication.

This paper gives a short overview of potential problems that can occur upon using biometric authentication technologies within AAIs. While biometric systems provide an authentication technology which is already used in software applications, their implementation within an AAI will raise a set of special problems, which are of architectural, security and quality nature and affect every type of biometrics.

2. Design research

In order to design an AAI system based on two-factor authentication that combines password and biometrics, two possible main AAI architectures are considered:

- Central Single Sign On server (SSO)

This architecture implies that only one dedicated server is responsible for the authentication process and for the ticket-generation process. From the flow-logic point of view it is possible that the user first logs in at the central server and then chooses which resources he wants to use. It is also possible that the user first requires the access to one resource and, if he does not have a ticket yet, he will be redirected to the central server.

The advantage of this architecture relies in its low redundancy in the authentication process and ticket generation, while its disadvantage is the single point of failure: if the central server is unavailable, no online resource can be accessed.

- Circle of Trust (CoT)

The CoT-architecture is defined as a union of resources where each one of them is able to generate online tickets valid for any resource from the circle. While being more difficult to implement than the Central SSO Server, the circle of trust has the advantage of being failsafe when one of the resources is unavailable.

The AAI presented uses the typing-cadence biometrics based on the Psylock method of recognition [1], developed since 1993 at the University of Regensburg. This biometric method uses as input parameters the keys events that were pressed or released (from a standard computer keyboard), together with the time when the events occurred (in milliseconds). From this data two types of features are extracted: dynamic attributes (like speed or rhythm) and static attributes (like the preference for left and right hand, agility, use of shift keys, ways or making or correcting mistakes, etc.). By means of neural networks and support vector machines, these attributes are compared to those stored in the user profile [3] and a match score between 0% and

99,99% is returned. This indicates how similar the typing behavior of the current user is to the one stored in the profile. If the match score is greater than a predefined threshold, the user is given access to the system.

This biometric method has the advantage of not requiring extra sensors except of a standard keyboard, is less vulnerable to key logging attacks and provides good person recognition.

3. Research topics

The combination of biometrics and AAIs raises several questions, which have to be cleared before implementing this combination of technologies:

- Architectural particularities

One important characteristic of biometrics is the fact that biometric data changes with the time, independent of the type of biometrics used (some biometrics change faster, others age slower). It is therefore important to examine this role that the aging of biometric data plays within an AAI, whose architecture requires many biometric profiles of the same user stored on many servers, out of which not all of them will be regularly actualized. Due to the fact that this problem occurs for every type of biometrics in a similar way, standard solutions for this problem must be provided.

- Security issues

Particular attention has to be given to the development of algorithms that recognize replay attacks [15]. Every biometric method has its own specific way of treating such attacks and different degree of vulnerability against them. In case of biometric AAIs, the second challenge consists in the real time replay checking of biometric data which stored on different servers.

Another security problem is feature theft. This problem appears when the secret of biometric data is lost and the biometric identity of a person is available to intruders. This problem is of more importance than the theft of a normal password, due to the fact that biometric features (like face, retina or finger) cannot be replaced. If a biometric factor is corrupted, it cannot be used again for authentication, therefore biometric AAIs must also consider this potential threat.

- Quality assurance

The quality that biometrics deliver depends very much of the way in which the user has enrolled and of the type of sensor he authenticates with. The quality problem is one of high importance for biometric AAIs, as a faulty enrolment or sensor may result in an increased false rejection of the entitled user. In case of typing behavior, the user must give additional attention during the enrolment phase. The use of multiple sensors (keyboards) must be provided by means of different biometric profiles.

4. Implications for biometric AAIs

The common current AAIs are not specially designed to be used with biometrics. Therefore, their architectures do not foresee the process of enrolment on different servers, template aging, synchronization of biometric data for the purpose of checking a replay attack or methods of delivering information about the quality of biometric data upon the login process. At the same time, interchanging biometric data between different identity providers can raise significant security questions, which means that a possible solution has to be researched at the level of the architecture of the AAI itself. A list of biometric attributes must to be generated and decided which one of them can be passed forward at the request of another server and which ones have to be kept locally for security reasons.

For this, known forms of AAIs have to be checked whether their architectures permit the use of biometrics. Based on this research, changes in their architectures can be made for achieving a reference model of a biometric AAI.

5. Conclusions

In order to become a large-scale solution to the increased number of passwords, AAIs have to provide both security and comfort in use. While comfort is achieved through flexibility in the authentication process and the user centric approach of identification provided by AAIs, biometrics (such as typing behavior) can provide the extra security necessary for the authentication process.

While researching the architecture and specific problem of biometric AAIs, new knowledge and information will be gathered. It is therefore relevant for this knowledge to be implemented in the form of a prototype of biometric AAI, based on the elaborated reference model. An easy to use biometric method in this case is typing behavior as it does not require special sensors and therefore it can be easily implemented as an enhanced security mechanism for password protected AAIs.

This prototype of a biometric AAI is currently under developed at the University of Regensburg. It uses the patented method of typing recognition Psylock [1] in combination with the popular open source AAI OpenID [9]. The research topics mentioned are considered during the implementation process. First tests have confirmed the aforementioned issues and brought up other research topics, like the use of three factor authentication (password, biometrics and token), fall-back mechanisms (loss of one authentication factor), trust management (can the parties involved be trusted) and policy based biometric authorization (e.g. access granted to different areas, depending of the reached match score).

References

[1] Bartmann, D., Bartmann, D. jr., “Method of user identity verification by means of a keyboard”, German patent, Nr. 196 31 484, 1997.

[2] Bartmann, D.; Breu, C.: “Suitability of the biometric feature of typing behavior for user authentication” (German), Aachen 2004, 321-341.

[3] Bartmann, D., Bakdi, I., Achatz, M., “On the Design of an Authentication System Based on Keystroke Dynamics Using a Predefined Input Text”, International Journal of Information Security and Privacy 1 (2007), Nr. 2, 1–12.

[4] Hess, A.; Humm, B., Voß, M.: “Rules for high quality service oriented architectures” (German edition), Springer-Verlag, 2006.

[5] Korman, D.; Rubin A., “Risks of the Passport Single Signon Protocol”, Computer Networks, Elsevier Science Press, volume 33, 51-58, 2000.

[6] Krafzig, D.; Banke, K.; Slama, D.: “Enterprise SOA”, Prentice Hall Professional Technical Reference, 2005.

[7] Lopez, J.; Oppliger, R., Pernul, G.: “Authentication and authorisation infrastructures (AAIs): a comparative survey”, Computers&Security 23, 578-590, 2004.

[8] Monrose, F.; Reiter, M.; Wetzel, S.: “Password hardening based on keystroke dynamics”, International Journal of Information Security, 69-83, 2002.

[9] OpenID, http://openid.net/, retrieved 01.03.2008.

[10] Peacock, A.; Ke, X.; Wilkerson, M.: "Typing Patterns: A Key to User Identification", IEEE Security and Privacy, No. 5, Vol. 2, (2004) 40-47.

[11] Ratha, N. K.; Connell, J. H.; Bolle, R. M.: "Enhancing security and privacy in biometrics-based authentication systems", IBM Systems Journal, Volume 40, Number 3, 2001.

[12] Schläger, C.; Sojer, M.; Muschall, B.; Pernul, G.: „Attribute-Based Authentication and Authorisation Infrastructures for E-Commerce Providers", pp 132-141 Springer-Verlag, 2006.

[13] Spillane, R. J.: "Keyboard apparatus for personal identification", IBM Technical Disclosure Bulletin, Bd. 17, Nr. 11, (1975) 3346.

[14] Stein, L.; Stewart John, "WWW Security FAQ", 2003, http://www.w3.org/Security/Faq/wwwsf1.html, retrieved 01.03.2008.

[15] Syverson, P.: "A Taxonomy of Replay Attacks", Proceedings of the Computer Security Foundations Workshop VII, Franconia NH, 1994, IEEE CS Press (Los Alamitos, 1994).

The competitiveness of the European automobile industry in financial crises conditions

University Prof. PhD Viorel CORNESCU, Prof. PhD Magdalena PLATIS
University of Bucharest

Assistant professor PhD Student Alina HAGIU
University of Pitesti
alinahagiu@yahoo.com

Abstract
The automobile industry crisis started in United States, where the main car manufacturers, General Motors, Ford and Chrysler, confronted with the decline of the market share from 70% in 1998 to 53% in 2008. The car manufacturers were hard hit by the financial crisis because the credit crunch weakens demand for new cars and makes it difficult for the sector to finance daily operations. Customers are hesitating to make large expenditure. New car sales decreased comparing with the last year, and the financial crisis aggravates the trend. Specialists are discussing the possibility of a common rescue package for all the EU member states.

Keywords: *competitiveness, car industry, regulation, crisis.*

1. Introduction

In Europe, the automobile industry has a long history, and today auto makers have production facilities in almost all the member states. Is no surprise the fact that Europe is the world's largest vehicle producer, this meaning that one third of the 50 million cars produced globally are manufactured in the European Union.
In total, more than 12 million European families depend on automobile employment, with 2.3 million direct jobs and another 10 million in related sectors. The car industry represents 6% of total European employment. Cars also represent a major source of income for the EU members' states. Vehicle taxes represent 3.5% of the European Gross Domestic Product (GDP), meaning a contribution of 360 billion Euros yearly to government revenues.
The European car industry has given important support to the shape of the current European Social Model. The European automobile manufacturers are fully part of the achievements of the European social model. And they are committed to maintaining its existence: A skilled and flexible work force is essential, and the industry makes continuous efforts to achieve even higher standards.
The car industry is and will remain a cornerstone of the European economy and society.

2. The European automobile industry

The European automobile industry is the key to the EU economy. The sector employs 2.3 million people directly and indirectly supports the jobs of another 10 million families. The automobile industry is the largest private investor in research & development in the EU, with R&D expenditure of 20 billion Euros annually.
In the following paragraphs will be presented: the motor vehicle production in Europe and in the world, the destination and the origin of exports and imports, in this area.

Table no.1 - The automotive industry major contribution to EU growth, employment and wealth

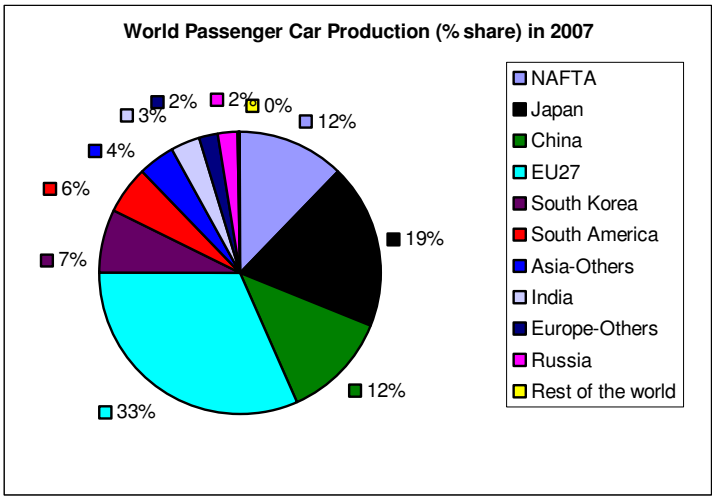
Production	Total motor vehicles (Worldwide)	2006	Mn units	69,2	
	Total motor vehicles (EU27)	2006	Mn units	18,6	= 27% of worldwide MV production
	Total passenger cars (Worldwide)	2006	Mn units	49,9	
	Total passenger cars (EU27)	2006	Mn units	16,2	= 33% of worldwide PC production
	-o/w ACEA members	2006	Mn units	13,2	= 26% of worldwide PC production
New Registrations/ Sales	Total motor vehicles (Worldwide)	2006	Mn units	62,6	
	Total motor vehicles (EU25)	2006	Mn units	18	= 29% of worldwide MV registrations/sales
	Total passenger cars (Worldwide)	2006	Mn units	46,6	
	Total passenger cars (EU25)	2006	Mn units	15,4	= 33% of worldwide PC registrations/sales
	-o/w ACEA members	2006	Mn units	12,1	= 26% of worldwide PC registrations/sales
Employment	Motor vehicles production EU27	2004	Mn people	2,3	
	Total (incl. indirect*) EU27	2004	Mn people	ca. 12.6	
Turnover	ACEA members worldwide	2005	Bn EUR		ca. 560
Investment	ACEA members worldwide	2005	Bn EUR	ca. 40	= 7% of turnover
R&D	ACEA members worldwide	2005	Bn EUR	20	= 4% of turnover
Value Added	in EU15 (Manufacturers + Suppliers)	2004	Bn EUR		8% of manufacturing sector
Exports	Extra EU25	2005	Bn EUR		71,1
	Trade Balance	2005	Bn EUR		41,6
Motor Vehicles in use (Western Europe**)	Total	2005	Mn units	224	
	Passenger Cars	2005	Mn units	196	
	Average Age	2005	Years	ca. 8	
	Density	2005	per 1000 inhab.	508	
New PC Registrations - Specifications (Western Europe)	Average CC	2006	Cm3	1733	
	Power	2006	(KW)	85	
	Diesel	2006	% Share	51%	
	4x4	2006	% Share	8,2%	
	Tax Revenue from Motor Vehicles	2006	Bn EUR	360	= 3,5% of EU15 GDP

Source: ACEA, VDA, AAA, GLOBAL INSIGHT, EUROSTAT

The figure no.1 reflects the world passenger car production during 2007. The figure shows that the biggest car production in the past year was realised in EU27 (33%), being followed by Japan (19%), NAFTA (12%), China (12), South Korea (7%). The rest of the places were occupied by South America (6%), other Asian countries (4%), India (3%), Russia (2%), and other European countries (2%).

Even if the EU27 is on the first place, we cannot ignore the fact that in reality Japan is the world biggest car producer, if we take into consideration the fact that EU's 33% represent the car production of all 27 member states, while Japan is a single state and detains 12% of the world passenger car production.

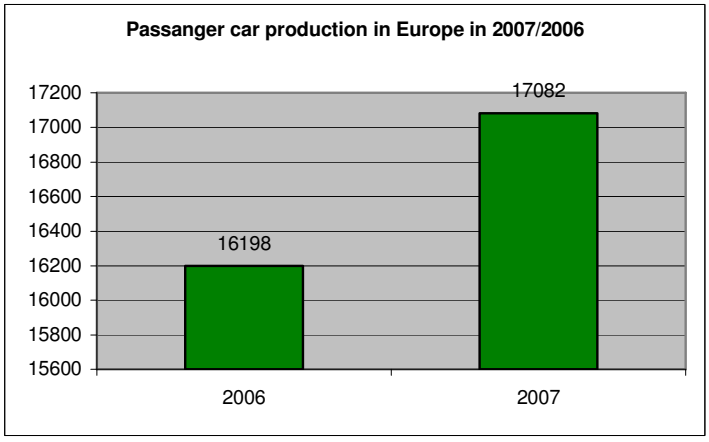
Figure no.1



Source: EU Economic Report, July 2008

In the figure no.3 we can see that in 2007, the automobile production in Europe increased by 5.5% in 2007. Passenger cars accounted for 87% of the production, an increase of 5.5% compared to 2006. In real figures, this means that the car production increased from 16198 in 2006, to 17082 in 2007.

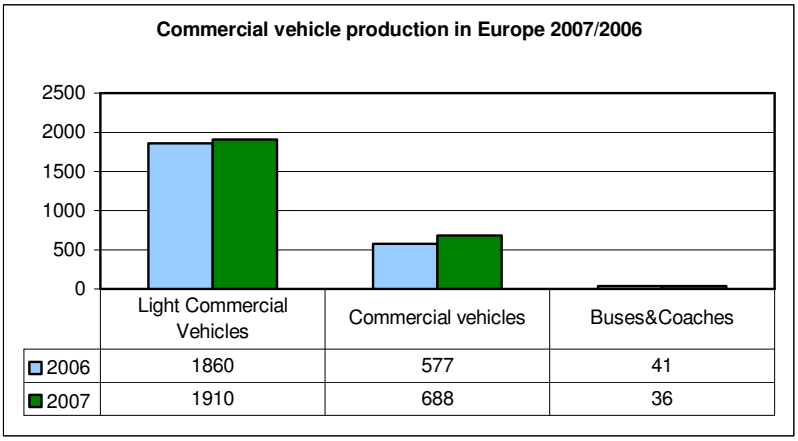
Figure no.2



Source: EU Economic Report, July 2008

A particularly solid growth was noted in the truck sector (+16%) thanks to a booming demand on the European markets. The production of light commercial vehicles also went up (+3%) whereas the production of buses declined by 13%. New EU member states posted a 25.4% growth in automotive production and accounted for 15% of total EU motor vehicle production and 17% of passenger car production by the end of 2007.
In real figures the growth was from 1860 in 2006 to 1910 in 2007 for light commercial vehicles and from 577 in 2006 to 688 in 2007 for commercial vehicles. Regarding busses we observe that their production confronted with a decrease from 41 in 2006 to 36 in 2007.

Figure no.3



Source: EU Economic Report, July 2008

Table no.2 - EU25 automobile trade (in million €)

	2005			2005			Trade Balance 06/05
	Imports	Exports	Trade Balance	Imports	Exports	Trade Balance	% change
	24 972	56 315	31 342	25 208	60 820	35 612	14
	3 005	1 836	-1 169	3 257	2 155	-1 102	-6
+	801	7 149	6 348	1 085	8 164	7 079	12
TOTAL	**28 779**	**65 301**	**36 522**	**29 550**	**71 139**	**41 589**	**14**

Source: EUROSTAT, CCFA

The origin of extra EU motor vehicle imports is represented in the biggest part by Japan (38%), South Korea (21%), Turkey (16%), NAFTA (15%). The rest is represented by MERCOSUR (2%), other Asian countries (2%) and others (3%).

Regarding passenger cars, extra EU imports, this comes from: Japan (42%), South Korea (25%), NAFTA (17%), Turkey (9%). The rest 7% is represented by: MERCOSUR (2%), other Asian countries (2%), and others (3%).

Table no.3 - Origin of extra EU25 imports (in € millions)

	Motor vehicles			Passenger cars		
	2005	2 0 0 5	06/05 % change	2005	2006	06/05 % change
EXTRA-EU25	28 779	29 550	3	24 972	25 208	1
Japan	12 351	11 101	-10	11 671	10 625	-9
South Korea	5 138	6 169	20	5 077	6 101	20
Turkey	4 015	4 658	16	2 099	2 358	12
NAFTA (1)	5 058	4 462	-12	4 865	4 225	-13
Asia Others (3)	1 228	1 395	14	546	458	-16
Others (5)	807	873	8	604	688	14
Mercosur	85	539	++	31	425	++

Source: EUROSTAT, CCFA

(1)NAFTA includes US, Canada, Mexico

(3)Asia (Others) includes Australia, India, Indonesia, Malaysia, Philippines, Taiwan, Thailand, and Honk-Kong, Singapore

(5) Others include remaining world wide regions not mentioned in any of the regions above-stated

The destination of extra EU motor vehicle exports is represented by: NAFTA (42%), Eastern Europe (14%), EFTA (9%), Japan 7%, China 2%, South Korea (1%) and others (7%).

Regarding extra EU passenger car export, we can say that also NAFTA represents the most important destination with a percentage of 49%, followed by: Eastern Europe (11%), EFTA (9%), Japan (8%), Africa (3%), China (2%), South Korea (1%) and others (5%).

Table no.4 - Destination of extra EU25 exports (in € millions)

	Motor Vehicles			Passengers Cars		
	2005	20 0 6	06/05 % change	2005	2006	06/05% change
EXTRA-EU25	65 301	71 139	9	56 315	60 820	8
NAFTA(1)	27 974	30 388	9	27 283	29 437	8
Eastern Europe (2)	8 901	9 696	9	6 702	6 982	4
EFTA	6 276	6 568	5	5 014	5 179	3
Asia Others (3)	4 762	4 661	-2	2 575	4 534	76
Japan	4 719	4 797	2	4 608	4 713	2
Africa	2 505	2 911	16	1 437	1 822	27
Middle East (4)	2 167	2 783	28	1 483	1 982	34
Iran	1 627	1 521	-7	908	670	-26
China	1 472	1 568	7	1 330	1 397	5
South Korea	513	730	42	386	643	67
Mercosur	272	402	48	245	370	51
Others (5)	4 114	5 114	24	4 344	3 091	-29

Source: EUROSTAT, CCFA

(1)NAFTA includes US, Canada, Mexico

(2) Eastern Europe includes Turkey, Russia, Romania, Ukraine, and Bulgaria

(3)Asia (Others) include Australia, India, Indonesia, Malaysia, Philippines, Taiwan, Thailand, Honk-Kong, Singapore

(4) Middle East includes Israel, Saudi Arabia, and Emirates

(5)Others include remaining worldwide regions not mentioned in any of the regions above-stated

3. The automobile industry regulation and the sector's competitiveness

The European automotive industry is experiencing extremely difficult times with the sharply declining economic circumstances further limiting the manufacturers' scope to absorb regulatory requirements and to respond to both changing and reluctant consumer demand. The industry, which is a key to the European economy, urgently needs a supportive framework to secure its future; and the EU has the means and tools to make it work.

The automobile industry is one of the most regulated sectors in Europe with over 80 EU directives and regulations, and additionally international UN/ECE requirements, all of which specify conditions for the registration and use of a vehicle. In the near-term, the industry is implementing numerous new regulatory requirements including Euro 5/6, Pedestrian Protection, Electronic Stability Control, CO2 requirements and the General Safety Regulation.

A supportive framework should consist of four important pillars: so-called 'better regulation', reciprocal trade relations, a low-interest loans package and market incentives.

EU trade policy should strive for a further trade liberalisation on both multilateral and bilateral level. Each bilateral free trade agreement (FTA) should ensure the European industry full reciprocity and a real opportunity and fair market access on both sides of the negotiating table. The aim of 'better regulation', as outlined in CARS21, is to reduce the regulatory burden on the industry though simplification and assessing new regulation's impact in advance, to avoid unnecessary costs. The automotive manufacturers acknowledge the important work the Commission has done with the introduction of 'better regulation' principles.

However, the industry asks EU legislators to enhance the transparency and quality of these impact assessments, in particular with respect to setting feasible long-term targets. Too often, legislation is designed in a restrictive manner with the industry becoming involved in too late a stage and without recognition of the constraints of manufacturing vehicles in a profitable, durable way.

Market incentives, e.g. in form of scrapping scheme for older vehicles, is a further important way of accelerating the take-up of fuel-efficient technologies and renewing the car fleet on Europe's roads, which has a clear environmental benefit. A low-interest loans package (40 billion EUR) would help secure a sustainable market for current and newly developed fuel-efficient technologies. Details of such a package are currently being discussed with the European Commission, the member states and the European investment bank. The package would, for instance, provide provisions to sustain investments in R&D and new product programmes.

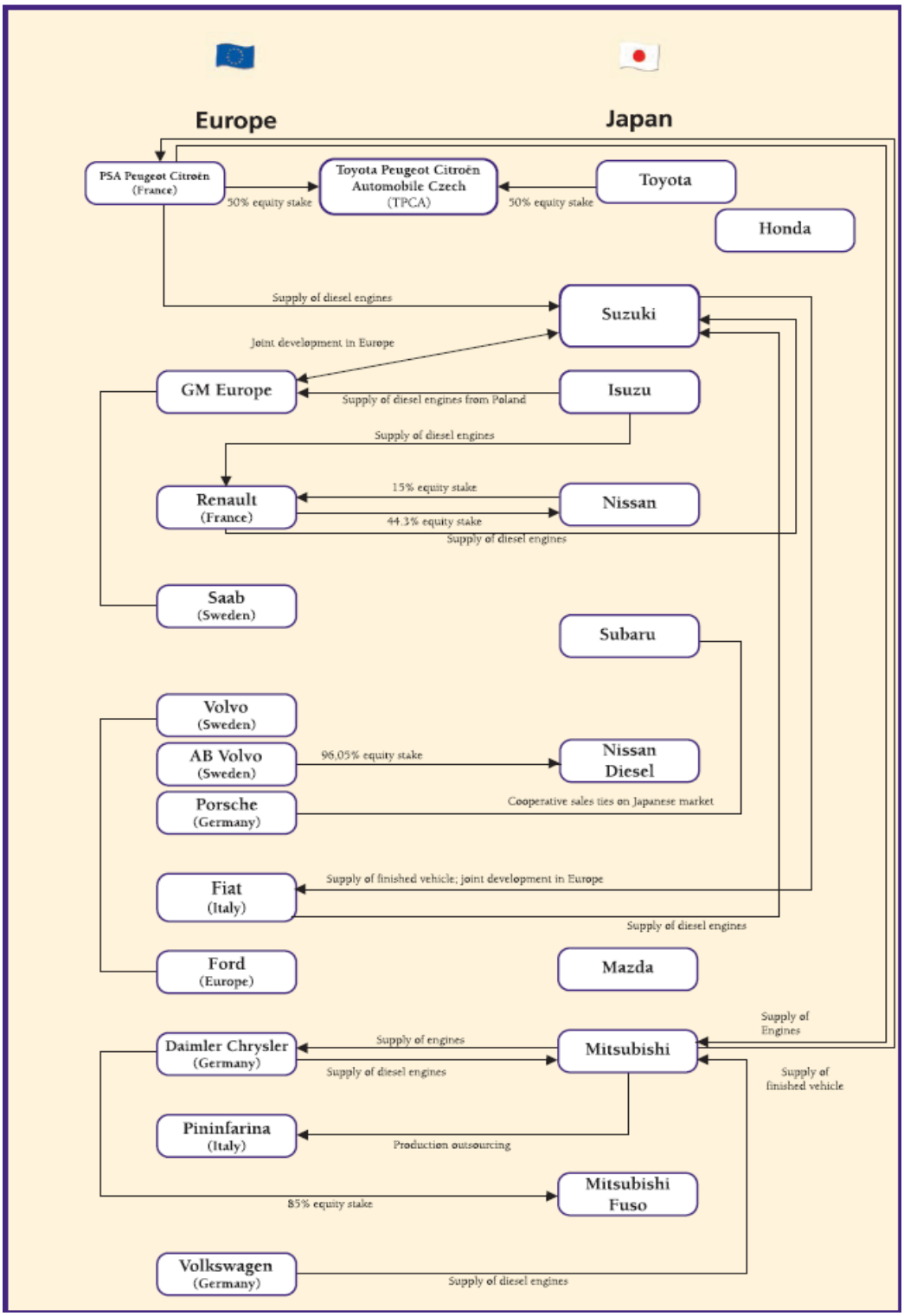
4. The role of Japanese Auto Manufacturers in the competitiveness of Europe's motor car industry

For more than twenty years, Japanese automobile manufacturers have been contributing to the vitality of Europe's automotive industry by designing and building cars in the European market to meet the requirements of local consumers.

The figures for 2007 speak for themselves:

- Cumulative investment by Japanese auto manufacturers in European production and research-and-development facilities reached 15.9 billion Euros.
- Japanese auto manufacturers in the EU produced over 1.5 million units.
- Japanese auto manufacturers operated a total of 16 manufacturing plants and 13 R&D centres in the EU and purchased 13.19 billion Euros' worth of EU-made parts.
- Directly in those operations and indirectly in sales and distribution, Japanese auto manufacturers' activities involved the employment of over 162,000 people across Europe.
- Japanese manufacturers have been building and producing cars in Europe to meet the market needs of European customers.
- Japanese manufacturers currently have 16 production facilities in 10 EU countries.
- In 2006, Japanese manufacturers produced 1.51 million vehicles in the EU.
- EU-made Japanese models exported from the EU totalled 121,713 units.
- EU production by Japanese manufacturers more than doubled since 1996.
- Over 15.9 billion Euros have been invested by our members in the production facilities in the EU.
- Over 37,356 jobs have been directly created by our members' production activities in the EU.
- Purchasing European parts by Japanese auto manufacturers has steadily increased and reached 13.19 billion Euros in 2006. This is more than three times the amount recorded in 1996.
- In the European production plants of Japanese automakers, European suppliers deliver more than 80% of the values of the parts.
- European suppliers with high outsourcing and looking for a long-term relationship are worthy partners for Japanese vehicle manufacturers.

Figure no.4 Automotive Ties between Europe and Japan on December 2007



Source: www.jama.jp Japan Automobile Manufacturers Association

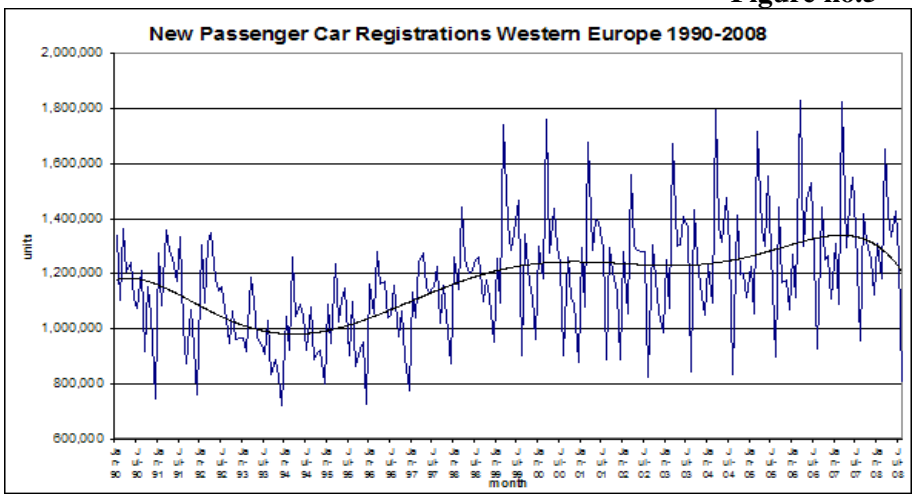
5. The financial crisis effects on the automobile industry competitiveness

A deepening global slowdown along with gloomy growth prospects and tumbling consumer confidence starts to take a toll on European automakers, which are faced with the need to sustain high levels of investment to support the market transition to low-emission vehicles without the backing of sufficiently strong consumer demand and political support.

The fall-out of the financial crisis hits auto manufacturers hard, as the credit crunch makes it more difficult for the sector to finance daily operations and, at the same time, also weakens demand for new cars. Consumers are increasingly hesitant to make large expenditures and find it more difficult to get their purchase financed.

This trend will hamper the EU objective to replace the European car fleet by more fuel-efficient vehicles in order to cut CO2 emissions. Without government support and market incentives, overly tight CO2 regulation risks to upset the fragile economics of an industry already in difficult circumstances.

Figure no.5



Source: EU Economic Report, July 2008

The automotive industry crisis of 2008 is a financial crisis facing primarily the United States automobile manufacturing industry as of November 2008. Other automobile manufacturers, particularly those in Europe are also suffering from the crisis. The Big Three U.S. manufacturers, (General Motors, Ford and Chrysler), have indicated that unless additional funding can be obtained over the short to medium term, there is a real danger of one or more companies declaring bankruptcy.

In Europe where car sales had also drastically decreased, consideration was being given to financial support for the automotive industry, particularly in France, Germany and Italy.

Claims have been made that the crisis has occurred mainly as a result of the bad policies of the Big Three U.S. automakers, since Asian companies that manufacture automobiles in the U.S. are not experiencing similar problems. In 2006, Consumer Reports reported that all 10 of the cars that it considered to be the 10 best were built by Japanese companies. While Michigan lost 83,000 Big Three auto manufacturing jobs between 1993 and 2008, more than 91,000 new auto manufacturing jobs were created - many of them by Asian companies - in Alabama, Tennessee, Kentucky, Georgia, North Carolina, South Carolina, Virginia and Texas during that same time period. A "Job Bank" was negotiated with the UAW union in 1984 and in 2005 covered about 12,000 workers, paying them to show up daily even if there was no work to do.

Other contributing factors have been the global financial crisis and the related credit crunch, pricing pressures on raw materials and substantially more expensive automobile fuels

which, in particular, caused customers to turn away from large SUV vehicles. In certain countries, particularly the United States, the industry has also suffered from relatively cheap models available from abroad, particularly from Japan and to some extent from Europe. So-called transplants, i.e. foreign cars manufactured or assembled in the United States, have also been a major problem.

Table no.5 - 2007 Top 10 best-selling cars in Europe

Position	Manufacturing	Model	Sales
1	Peugeot	207	437,505
2	Volkswagen	Golf	435,055
3	Ford	Focus	406,557
4	Opel/Vauxhall	Corsa	402,173
5	Opel/Vauxhall	Astra	402,044
6	Renault	Clio	382,041
7	Fiat	Punto	377,989
8	Ford	Fiesta	355,933
9	Volkswagen	Passat	300,566
10	BMW	3-series	295,312

Source: http://www.acea.be/index.php/faq/#faq_254

6. Conclusions

It is crucial that the EU institutions establish a regulatory framework in which the automotive industry can continue to develop and fulfil its economic and societal role. The automotive industry is one of the most regulated sectors in Europe, due to the technological complexity of the automotive product itself and to the implications of the use of motor vehicles with regard to the environment, safety and mobility. Today, there are roughly 80 European directives and 115 UN/ECE pieces of legislation that concern motor vehicles. This is a burden that should not be underestimated. As a consequence, we are often so tangled down in regulatory and technical issues that we forget to communicate our achievements and the many challenges the automotive industry has taken up. With regard to road safety, for example, the number of traffic casualties has been halved in the last two decades, while road transport has tripled. This dramatic progress is mainly due to improved vehicle safety. The introduction of seatbelts, airbags and ABS alone has reduced by 80 % the number of fatal or serious injuries to vehicle passengers; and all this with car manufacturers' efforts beyond the legislative requirements.

Clearly, better road safety is a never-ending battle, and the 40,000 casualties occurring each year on European roads are still an unbearable toll for our societies, but the automotive industry cannot be considered the only actor in this area. If we want to win the challenge, we need an "integrated approach" that also addresses infrastructure flaws, enforcement of traffic law and driver behaviour.

To this adds the economic situation in the wake of the financial crisis. In the past weeks, various manufacturers have announced they would scale back their production as a consequence of the current cocktail of negative ingredients. All this makes it more important than ever that industry and policy-makers work together constructively in the interest of society as a whole. The EU can contribute to this through 'better regulation', reciprocal trade relations and by applying an 'integrated approach' to legislation.

Reasons for the European car manufacturers to stay competitive

- The automotive sector is key for sustaining and improving the economic strength of the European Union
- European automotive sector employs 2.3 million people directly and indirectly supports the jobs of another 10 million families.
- Autos create jobs, jobs, jobs.
- More competitive European car manufacturing means better life for the people related with the car manufacturing area.

Bibliography

1. *** - EU Economic Report, February 2008
2. *** - European Automobile Industry Report 06/07
3. *** - UNEP Report on the automotive industry as a partner for sustainable development, 2004
4. *** - Economic Tribune, 2005-2008 Collection
5. http://www.acea.be/images/uploads/files/20080219_ER%200802%20CONSOLIDATED%20-%20website.pdf
6. http://www.acea.be/index.php/news/news_detail/automobile_production_expanded_by_53_in_2007/
7. http://oica.net/wp-content/uploads/2007/06/worldprod_cars-1.pdf
8. http://www.acea.be/index.php/faq/#faq_254
9. http://oica.net/wp-content/uploads/cars1.pdf
10. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-BW-07-001/EN/KS-BW-07-001-EN.PDF

The economic equilibrium

University Professor PhD. Ion CIUREA
Assistant professor Cornelia MIU
University of Pitesti
ciureaion@yahoo.com

Abstract. The basic economic is the conflict between unlimited human wants and limited resources. Scarcity is a fact life. Individually and collectively we cannot have all we want; we are forced to live within our means. Because resources are scarce, we need to study society chooses from the menu of possible goods and services, how different commodities are produced and priced, and who gets to consume the society produces. A market economy is one in which individuals and firms make the major decisions about production and consummation. A system of price of markets, of profits and losses, of incentives and rewards determines *what, how,* and *for whom.* Firms produce the commodities that yield the highest profits (the *what*) by using techniques of production so that the production is least costly (the *how*). Consumption is determined by individual's decision about how to spend the wages and propriety ownership (the *for whom*). Equilibrium implies a state of rest, or balance, between opposing forces. Economic reasoning leads to the important marginal principle. In making decision, it counts marginal or future advantages and disadvantages and disregards sunk costs that must be paid under any circumstances. That people will maximize their incomes or profits or satisfaction by counting only the marginal costs and benefits of a decision. For instance, it clearly lies behind successful profit maximization by firms.

1. Introduction

Equilibrium is a situation where there is not tendency for change; in other words, it is a situation that can persist. Under certain conditions (the perfectly competitive market), the outcome guarantees allocative efficiency, in which no consumer's utility can be raised without lowering another consumer's utility. Allocative efficiency (sometimes called Pareto efficiency) signifies that not one person can be made better off without someone else being made worse off. The behavior of individual markets is a device for synthesizing:

1. Competitive supply and demand operate to determine prices and quantities individual markets;
2. Market demand curves are derived from the marginal from the marginal utilities of different goods;
3. The marginal costs of different commodities lie behind their competitive supply curves;
4. Firms calculate marginal costs of products and marginal revenue products of factors and then inputs and outputs so as to maximize profits.

Each of these relationships is the subject of ***partial-equilibrium analysis*****,** which analyzes the behavior of a single market, household, or firm, taking the behavior off all other markets and the rest of the economy as given. By contrast, ***general-equilibrium analysis*** examines how (and how successfully) the simultaneous interaction of all household, firms, and markets solves the question of *how, what*, and *for whom* (9).

2. **Market Equilibrium.** The *theory of supply and demand* shows how consumer preferences determine consumer demand for commodities, while business costs are the foundation of the supply of commodities. By determining the prices and quantities off all inputs and outputs, the market allocates or rations out the scarce goods of the society among the possible uses. The analysis of supply and demand shows how a market mechanism grapples with the triad of economic problems, *what, how*, and *for whom*. It shows that money votes decide quantities of different goods.

The answer is that the forces of supply and demand operate through the market to produce an equilibrium price and quantity, or market equilibrium. The ***market equilibrium*** comes at that equilibrium price and quantity where the supply and demand forces are in balance. It is understood that equilibrium exists when ***the intentions*** of buyers coincide with those of sellers regarding price and quantity. At equilibrium, price and quantity tend to stay the same, as long other things remain equal.

Let us work through in Table 1 to see how supply and demand determine a market equilibrium (2). The price at which the quantity demanded equals the quantity supplied is called ***equilibrium price***. At the equilibrium price of 4 euro, there is no tendency for price to rise or fall, and stockpiles are neither growing nor declining. We also say that 4 euro is the market-clearing price. This denotes that all supply and demand orders are filled, the books are "cleared" of orders, and demanders and suppliers are satisfied. Thus *an equilibrium price can be maintained.* Any price that is not an equilibrium price cannot be maintained for long, since there are basic forces at work to stimulate a change in price.

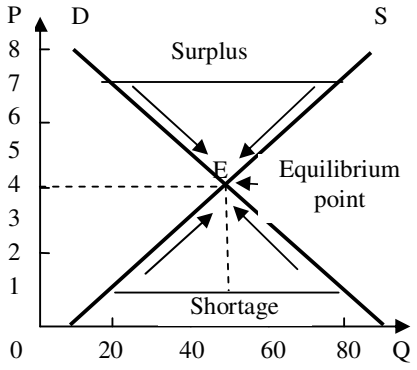
Any other price is called ***disequilibrium price:*** the price at which quantity demanded does not equal quantity supplied, and price will be changing. A market that exhibits either excess demand (shortage) or excess supply (surplus) is said to be in a state of ***disequilibrium.*** Excess demand (quantity demanded exceeds quantity supplied) end excess supply (quantity supplied exceeds quantity demanded) causes an upward pressure on price.

Anything that must be true if equilibrium is to be obtained is called an ***equilibrium condition.*** In to competitive market, the equality of quantity demanded and quantity supplied is an equilibrium condition.

Table 1. Combining demand and supply

Possible prices P	Quantity demanded Q_d	Quantity supplied Q_o	Surplus + Shortage-	Pressure on price
8	10	90	+ 80	Downward
7	20	80	+ 60	Downward
6	30	70	+ 40	Downward
5	40	60	+ 20	Downward
4	**50**	**50**	**0**	**Neutral**
3	60	40	- 20	Upward
2	70	30	- 40	Upward
1	80	20	- 60	Upward
0	90	10	- 80	Upward

Fig.1. Market equilibrium



We show market equilibrium graphically in Figure 1. We find the market by looking for the price at which quantity demand equals quantity supplied. *The equilibrium price comes at the intersection of the supply and demand curves, at point E.* At too low price there is a *shortage* and price tends to rise. Too high a price produces a *surplus*, which depress price (1).

In the algebra of supply – demand analysis, suppose in a certain the demand schedule is have a system by the linear equation: $Q_d = a - bP$ and $Q_o = a + bP$, where Q_d is the demanded quantity, Q_o is the supplied quantity and a and b are positive constants: graphically, a corresponds to the intercept of the demand-supply curves and b is the negative/positive demand-supply curves slope. The condition of equilibrium it: $Q_o = Q_d = Q_E$. In example, $Q_d = 90 - 10P$ and $Q_o = 10 + 10P \leftrightarrow 90 - 10P = 10 + 10P \leftrightarrow P = 4$ and $Q_E = 50$.

The analysis of the supply-and-demand apparatus can do much more than tell us about. It can also be used to predict the impact of changes in economic conditions on prices and

quantities. A shift in the supply curve indicates a change in the quantity supplied at each price and is referred to as a *change in supply*. The supply curve shifts to the right (an increase in supply) if the costs of producing the commodity fall, or it, for any reason, producers become more willing to produce the commodity. The opposite changes shift the supply curve to the left (a decrease in supply).

Using the method of ***comparative static***, the effects of a shift in either demand or supply can be determined. A rise in demand raises both equilibrium price and quantity; a fall in demand lowers both. A rise in supply raises the equilibrium quantity but lowers the equilibrium price; a fall in supply lowers equilibrium quantity but raises equilibrium price. These are the so-called ***laws of supply and demand.***

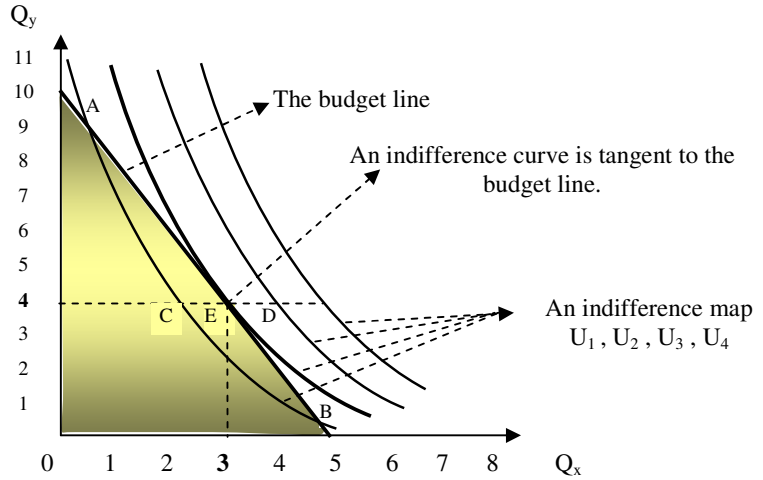
Conclusion*: The equilibrium price and quantity come at that level where the amount willingly supplied equals the amount willingly demanded. In a competitive market, this equilibrium is found at the intersection of the supply and demand curves – where there is neither excess demand nor excess supply. The market together all consumer demands and firm supplies to reach market equilibrium.*

3. Consumer Equilibrium. In explaining consumer behavior, we rely on the fundamental premise that people tend to choose those goods and services they value most highly. The fundamental condition of maximum satisfaction or utility is therefore the following: A consumer with a fixed income and facing given market prices of goods will achieve maximum satisfaction or utility when the marginal utility of the last money spent on each good is exactly the same as the marginal of the last money spent on any other good. This fundamental condition of consumer equilibrium can be written in terms of the marginal utilities (U_m) and prices (P) of the two goods (x, y) in the following compact way (6)

$$\frac{Um_x}{P_x} = \frac{Um_y}{P_y} = \quad \text{or} \quad \frac{Um_x}{Um_y} = \frac{P_x}{P_y}$$

A century ago, the economist Vilfredo Pareto (1848-1923) discovered that all the important elements of demand theory could be analyzed without the utility concept. Pareto developed what are called indifference curves. In general, an ***indifference curve*** shows all combinations of goods that yield the same satisfaction to the household. A household is *indifferent* between to combinations indicated by any two points on one indifference curve. The indifference contour is usually drawn convex (or bowl-shaped) is accordance with the empirical law of diminishing relative marginal utilities (7).

Fig.2. Optimum (equilibrium) of the Consumer



To scarcer a good, the greater its relative substitution value; its marginal utility rises relative to the marginal utility of the good that has become plentiful. The slope of the indifference curve is the measure of the goods' relative marginal utilities, or of the substitution terms on which – for very small changes – the consumer would be willing to exchange a little less of one good in return for a little more of the other. An indifference curve that is convex in the manner Figure 2 conforms to law of substitution (2).

When a consumer has a fixed money income, all of which he spends, and is confronted with market prices of two goods, he is constrained to move along a straight line called the budget line or budget constraint. ***The budget line*** shows all combinations commodities that are available to the household given its money income and the price of the goods it purchases, if it spends all its income on them. The line's slope will depend on the ratio of the two market prices; how far out it lies will depend on the size of his income.

Suppose that expenditures on commodities Q_x and Q_y exactly exhaust income (I). Then we have the equation:

$$I = P_x Q_x + P_y Q_y \leftrightarrow$$

$$Q_y = \frac{I}{P_y} - Q_x \frac{P_x}{P_y} \leftrightarrow \frac{dQ_y}{dQ_x} = -\frac{P_x}{P_y} \text{ (budget line slope)}$$

The consumer will move along this budget line until reaching the highest attainable indifference curve. At is point, the budget line will touch, but not cross, an indifference curve. Hence, optimum (equilibrium) is the point of tangency, where the slope of the budget line (the ratio of the price) exactly equals the slope of the indifference curve (the substitution ratio or relative-marginal-utility ratio of the two goods). The gives additional proof that, in equilibrium, marginal utilities are proportional to prices: $U_m x/U_m y = P_x/P_y$.

Conclusion*: geometrically, equilibrium occurs at E (fig.2), where an indifference curve is tangent to the budget line. To increase our understanding of demand we consider the effects of (a) a change in money income and (b) a change in the price of one of the two goods.*

4. Producer Equilibrium. Production consists of transforming inputs (or factors of production) into outputs (or goods and services). The firm is the economic unit that produces and sells commodities. The economist's definition of the firm abstracts from real-life-difference in size and form of organization of firms.

Economic theory assumes that the same principles underlie each decision made within the firm and the actual decision is uninfluenced be who makes it. Standard economic theory postulates that the business firm can be said to ***maximize profit*** – difference between revenue and cost. The profits and losses provide important signals concerning the reallocation of resources. Profits earned in an industry provide a signal that more resources can profitably move into the industry. Losses show that some resources have more profitable uses elsewhere and serve as a signal for them to move out of that industry. To maximize profit, the firm chooses that output at which the excess of revenue over cost is greatest.

Behavior of the firm in pursuit of profit was an instance of an *optimization* problem. The second category of analytical problem is *determination of equilibrium*. We shall see how the optimizing decisions of the individual firms lead in aggregate to a market supply curve or supply function, which indicates how much will be offered in the by the industry as a whole. This supply function, together with consumer's demand function, provides all the elements needed to determine the equilibrium price in the product market and the equilibrium quantity produced and consumed (5).

Economists have focused on a few theoretical market structures that they believe represent a high proportion of the cases actually encountered in market economies: perfect competition, monopoly, monopolistic competition, and oligopoly.

For a ***competitive ("price – taking") firm*** in the product, the *rule for a firm's supply under perfect competition* is: A profit-maximizing firm will set its production at that level where marginal cost equals price:

Marginal cost = Marginal revenue = Price or $C_m = R_m = P$

Under perfect competition, price equals average revenue. A perfect competitor's demanded curve (P) and its R_m coincide as horizontal lines.

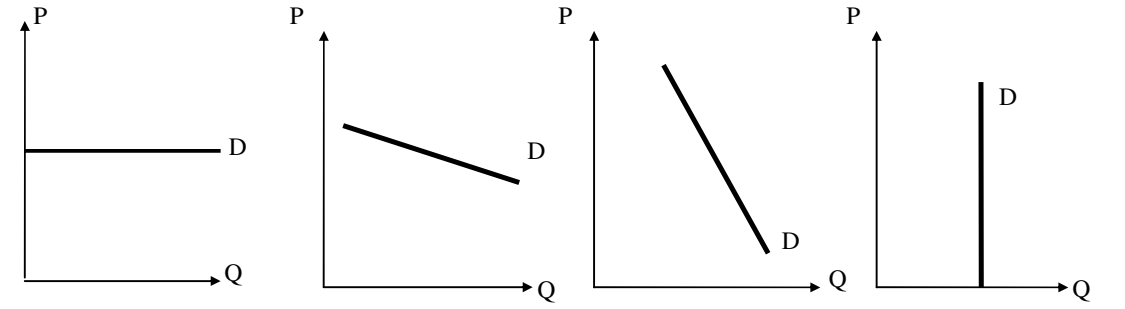
The short-run and long-run cost functions differ; in the short run, certain factors are held constant that are allowed to vary in the long run. The short-run supply curve of competitive industry is the horizontal sum of the firm's supply curves, adjusted for the factor –price effect upon firm' C_m curves at industry output expand or contracts. Each firm's rising C_m curve is its supply curve. The supply curve of the industry hence represents the marginal cost curve for the competitive industry as o whole (4).

The demand curve facing a single firm in perfect competition is horizontal (perfectly elastic) because variations in its production over the range that we need to consider for all practical purposes will have a negligible effect on price.

If a firm can appreciably affect the market price of its output, then the firm is classified as an "imperfect competitor". ***Imperfect competition*** prevails in an industry whenever individual sellers have some measure of control over the price of output in that industry. Imperfect competition does not imply that a firm has absolute control over the price of its product. How imperfect can imperfect competition? The extreme case would by monopoly: a single seller with complete control over an industry. Exclusive monopolies are rare today. Most market structure today fall somewhere on a spectrum between perfect competition and pure monopoly: a) oligopoly, here a few sellers of a similar or differentiated supply the industry; b) monopolistic competition, where a large number of small firms supply related but somewhat differentiated product (3).

We can also see the difference between perfect and imperfect competition in terms of price elasticity. For a perfect competitor, demand is perfectly elastic; for an imperfect competitor, demand has a finite elasticity.

Fig. 3. Imperfect Competition and Price Elasticity Demand



a) Infinitely elastic demand (Perfect Competition) b) Elastic demand (Monopolistic Competition) c) Inelastic demand (Oligopoly) d) Perfectly inelastic demand (Monopoly)

For the imperfect competitor, marginal revenue is less than price because of the loss on all previous units of output that will result when the firm is forced to drop its price in order to sell an extra unit of output. An imperfect competitor faces a downward-sloping demand curve. With demand sloping downward, *rule for a firm's supply under imperfect competition* is: A profit-maximizing firm will set it production at that level where marginal cost < price:

Marginal cost = Marginal revenue < Price or $C_m = R_m < P$

Consider the firm's cost function in those markets structures: $TC = Q^3 - 12Q^2 + 60Q + 128$. Find the supply function of the firm or industry, using the exact formula for Marginal Cost: $C_m = CT'_{(Q)} = 3Q^2 - 24Q + 60$ ant $Q \{0, 12\}$. The equations the revenues totals (TR), averages (P), and marginal's (R_m) are presentation of Table 2

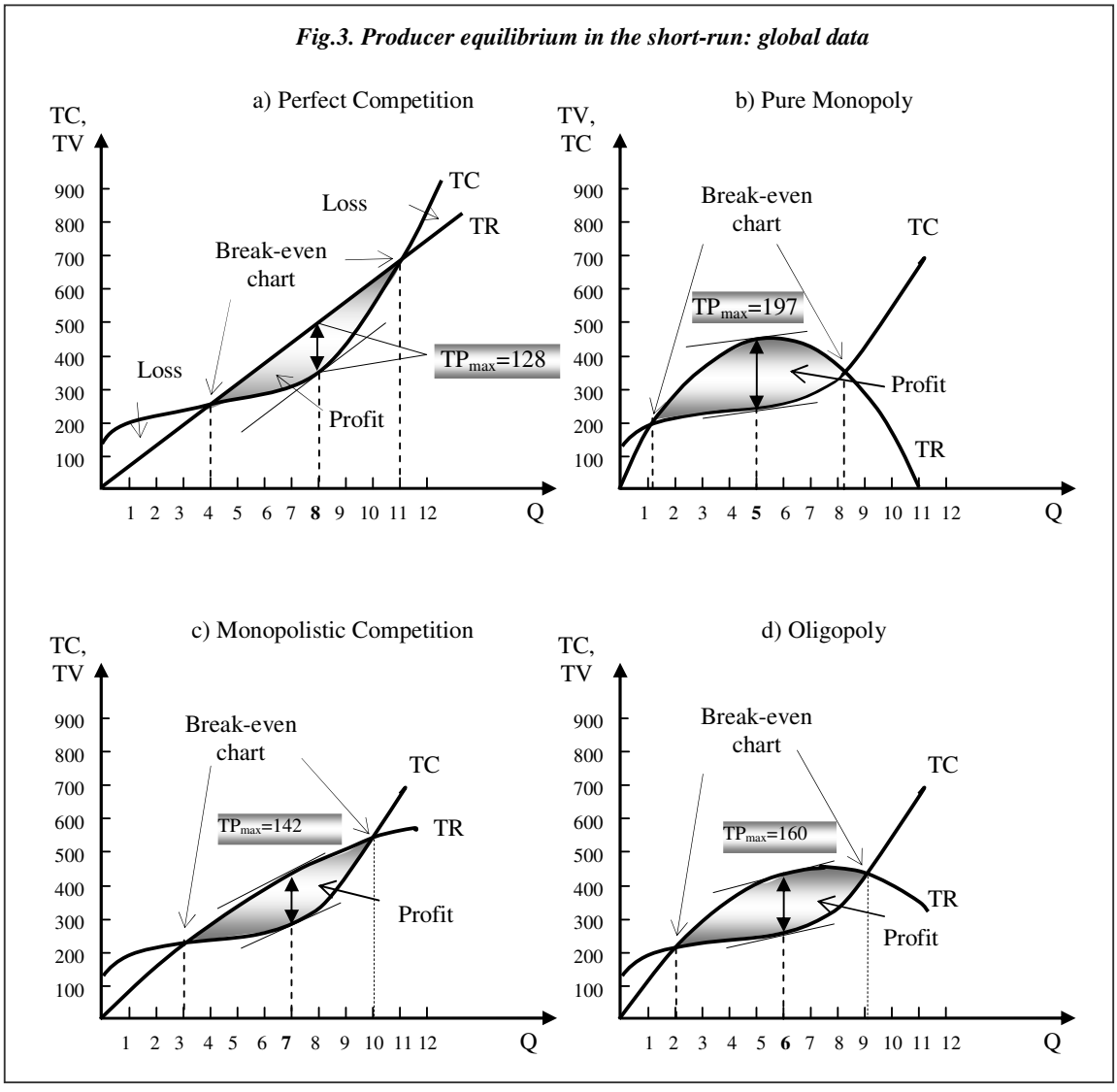
Calculations of cost and revenue concepts for a price-taking firm are illustrated in Figures 3 and 4.

Table 2. The equations of average revenues (P), totals (TR) and marginal (R_m)

Perfect Competition	Monopolistic Competition	Oligopoly	Pure Monopoly
$P = 60$	$P = 88 - 3{,}5Q$	$P = 120 - 8Q$	$P = 165 - 15Q$
$TR = 60Q$	$TR = 88Q - 3{,}5Q^2$	$TR = 120Q - 8Q^2$	$TR = 165Q - 15Q^2$
$R_m = VT'_{(Q)} = 60$	$R_m = 88 - 7Q$	$R_m = 120 - 16Q$	$R_m = 165 - 30Q$

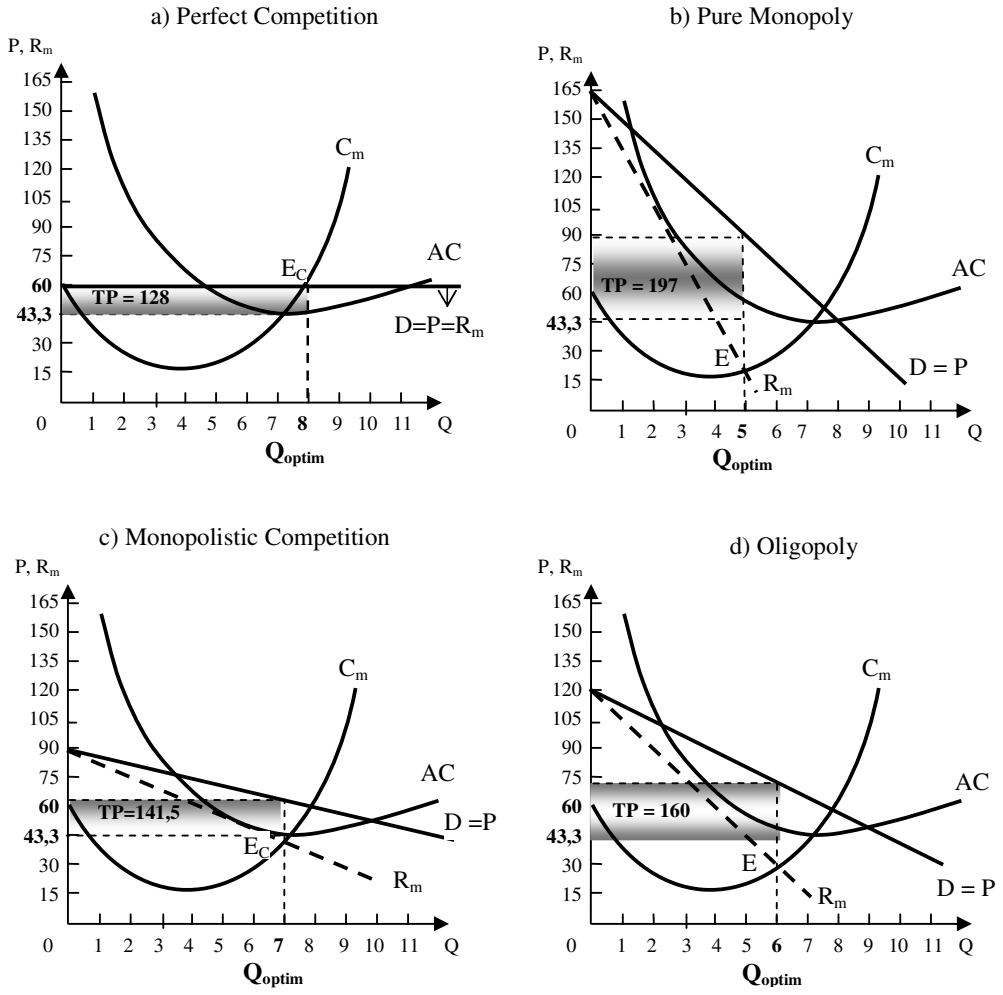
To maximize its profits/ the firm must find the equilibrium price and quantity, P_E and Q_E (optimally), which give the largest profit, or the largest difference between TR and TC. An important result is that maximum profit will occur when output is at that level where the firm's marginal revenue is equal to it marginal cost.

Fig.3. Producer equilibrium in the short-run: global data



Because the firm imperfect competitive has a downward-sloping demand curve, this means that $R_m < P$. Because price is above marginal cost for profit – maximizing, the firm reduces output below the level that would be found in a perfectly competitive industry.

Fig. 4. Producer equilibrium in the short-run: average data



Our analysis shows how the monopolist reduces the output and raises the price, thereby producing lees than would be forthcoming in a perfectly competitive industry. To see how and why monopoly keeps output too low, imagine that all money votes are distributed properly and that all industries other than one are perfectly competitive, with C_m equal to P. In this world, price is the correct economic standard or measure of scarcity: price measures both the marginal utility on consumption to households and the marginal cost of producing goods by firms.

Economists measure the economic form of inefficiency in terms of the ***deadweight loss;*** this term signifies the loss in real income or consumer and producer surplus that arises because of monopoly, tariffs and quotas, taxes, or other distortions (4).

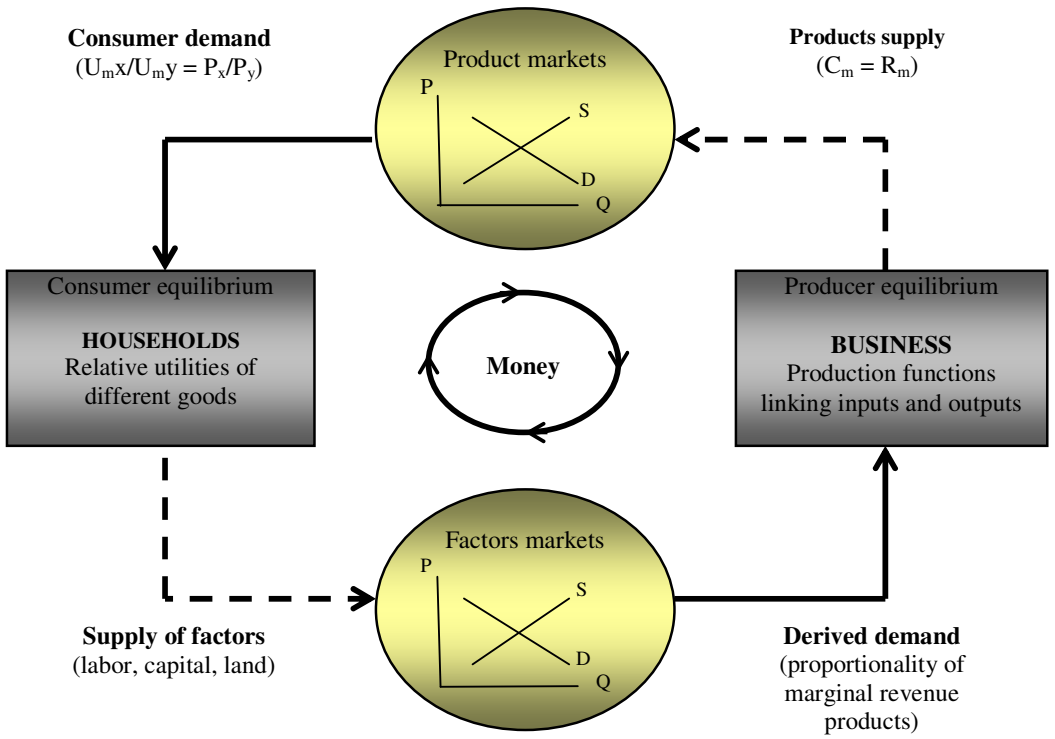
5. Interaction of all Market in General Equilibrium. All these processes are going on simultaneously. These different activities do not go on independently, each in its own little groove, careful not to get in the way of the others. All the processes of supply and demand, of

cost and preference, of factor productivity and are really different aspects of one vast, simultaneous, interdependent process (7).

Like an invisible web, the many input and output markets are connected in an interdependent system we call a general equilibrium. The outer loops show the demands and supplies of goods and factors (Fig.5). Thus we see a logical structure behind the millions of markets determining prices and outputs:

- Households with supplies of factors and preferences for products interact with
- Firms that, guided by the desire to maximize profits, transform factors bought from households into products sold to households. The logical structure of a general – equilibrium system complete.

Fig. 5. Partials Equilibriums ant General Equilibrium



***Conclusion**: In competitive general equilibrium, with utility – maximizing consumers and profit – maximizing firms:*

- *the rations of marginal utilities of goods for all consumers are equal to the relative prices of those goods;*
- *the rations of marginal costs of goods produced by firms are equal to the relative prices of those goods;*
- *the relative marginal product of all inputs are equal for all firms and all goods and are equal to those input's relative prices.*

A perfectly competitive, general – equilibrium market system will display allocative efficiency. Two different types of market failure spoil assumed in the discussion of efficient markets: imperfect competition and externalities (arise when all the side effect of production or consummation is not include in market price).

There are severe limits on the conditions under which an efficient competitive equilibrium can be attained: there can be no externalities, no monopolies or economies of scale, and no uninsurable risks. The presence of such imperfections leads to a break down of the price ratio = marginal cost ratio = marginal utility ratio conditions, and hence to inefficiency (8).

Even if the ideal conditions for efficient perfect competition where to be held, one major reservation about the outcome of competitive *laissez-faire* would remain. We have no reason to think that income under *laissez-faire* will be fairly distributed. The outcome might be with enormous disparities in income and wealth that persist for generations. Or, conceivably, the outcome might be one in which there is virtual equality of outcomes.

Bibliography

1. Begg D., Fischer S., Dornbusch R., (coord.), Micro*économie*, Mc Graw – Hill, Paris, 1989;
2. Ciurea I., *Economics,* The University of Pitesti, 2005;
3. Frois G.A., *Economie politique,* Quatrième édition, 1994 by Humanitas, Bucharest, 1994;
4. Glahe F., Dwight L., *Microeconomics. Theory and Applications,* HBJ, New York, 1984;
5. Hirshleifer J., *Price Theory and Applications. Third edition.* Prentice Hall, Inc., Englewood Cliffs, N.J., 1984;
6. Lipsey R., Steiner P., Purvis D., *Economics, Eighth Edition,* Harper & Row, Publishers, New York, 1987 ;
7. Mansfield E., *Microeconomics. Theory and Applications. Fourth Edition*, W.W Norton and Company, New York and London, 1982.
8. McKenzie R., *Economics,* Houghton Mifflin Company, Boston, 1986;
9. Samuelson P., Nordhaus W., *Economics,* Romanian edition copyright 2000 by Teora.

Free movement of goods on the Single European Market

University Professor PhD Emilia UNGUREANU
Master Student Felix Constantin BURCEA
University of Pitesti
emiliaungureanu@yahoo.com

Abstract
The single European market is all about bringing down barriers and simplifying existing rules. This thing allows larger businesses to benefit from enormous economies of scale, easier cross-border trade within the EU, easier ways to start a business, new sources of finance, contracts and funding.
Concerning the single market for goods, approximately half is covered by harmonised regulations, while the other half is accounted for by the „non-harmonised" sector. The conformity of the product with the applicable community requirements imposed on the manufacturer is symbolised by the CE marking.
Market surveillance authorities must check that the affixing and use of the CE marking is correct, and that the principles regarding additional markings and marks are respected.

Keywords: *Single European Market, four freedoms, harmonisation, standardisation, simplification*

1. General policy framework

The single market is all about **bringing down barriers** and **simplifying existing rules** to enable everyone in the EU - individuals, consumers and businesses - to make the most of the opportunities offered to them. "The Single European Market means, in a few words, the commitment of implementing simultaneously the great market without frontiers, more economic and social cohesion, an European research and technology policy, the strengthening of the European Monetary System, the beginning of an European social area and significant actions in environment"-Jacques Delors[19]
The cornerstones of the single market are often said to be the 'four freedoms' - the free movement of **people, goods, services and capital**. These freedoms are enshrined in the EC Treaty and form the basis of the single market framework
But what do they mean in practice for everyone in the EU?

- **Individuals**: the right to live, work, study or retire in another EU country
- **Consumers**: increased competition leading to lower prices, a wider choice of things to buy and higher levels of protection
- **Businesses**: much easier and cheaper to do business across borders

The single market is also enabled by **additional laws** ('Directives') that bring down further barriers in specific areas and that are implemented at national level by Member States themselves.

2. Benefits for business

A single market of close to 500 million people: this allows larger businesses to benefit from enormous economies of scale, including through better connected and cheaper transport, telecommunications and electricity networks.

[19] Jacques Delors, president of the European Commission (1985-1995)

Meanwhile, new export markets have been opened up to small- and medium-sized businesses that previously would have been dissuaded from exporting by the cost and hassle.

Easier cross-border trade within the EU: the absence of border bureaucracy and the spread of the euro have cut delivery times and reduced costs. Before the frontiers came down, the tax system alone required 60 million customs clearance documents annually; these are no longer needed. The use of the mutual recognition principle also means that in most cases, even where there is no harmonisation of technical specifications or other rules, companies need only one authorisation - from their home Member State - to provide a product anywhere in the EU.

Easier ways to start or buy a business: the average cost for setting up a new company in the former EU-15 has fallen from €813 in 2002 to €554 in 2007, and the time needed to cope with the administrative procedures to register a company was reduced from 24 days in 2002 to about 12 days today. EU regional policy plays a direct role for the development of business support services for SMEs in areas such as access to finance, management and marketing. EU competition law provides for a level playing field in terms of anticompetitive agreements and practices, mergers and acquisitions, public procurement and state aid within the EU.

The spread of EU standards and labels: thanks to technical harmonisation efforts and the work of standardisation bodies, goods manufactured to these standards comply with applicable rules and can move freely within the single market. This gives companies EU wide market access, simplifies procedures and cuts costs, and ensures technical interoperability and a high standard of safety.

New sources of finance, contracts and funding: the integration of financial services means cheaper finance for businesses of all sizes and liberates listed companies from having to comply with 27 divergent sets of national rules when they want to raise money. Thanks to the opening up of public procurement rules, companies are also now able to bid for contracts to supply goods and services to public authorities in other Member States.

Improved cross-border cooperation and technology transfer: networks such as the new Enterprise Europe Network provide assistance to entrepreneurs seeking to do business throughout Europe. The new network will reach out to 2 million SMEs via some 600 businesses and innovation support organisations throughout the European Economic Area and in certain candidate and potential candidate countries. It will provide SMEs with easy access to Euro Info Centre services and Innovation Relay Centre services under one roof.

3. A single market for goods

One of the 'four freedoms' of the Single Market is the free movement of goods. Member States **may restrict** the free movement of goods **only in exceptional cases**, for example when there is a risk resulting from issues such as public health, environment, or consumer protection.

The risks vary by product sector. In order to minimise risks and ensure legal certainty across Member States, EU legislation **harmonising technical regulations** has been introduced in particular in the higher-risk product sectors.

Lower-risk sectors have not in general been the subject of legislation on a European level. Trade in this ‘non-harmonised’ sector relies on the **'mutual recognition' principle**, under which products legally manufactured or marketed in one Member State should in principle be able to move freely throughout the EU.

Approximately half of the trade in goods within the EU is covered by harmonised regulations, while the other half is accounted for by the ‘non-harmonised’ sector, which is either regulated by national technical regulations or not specifically regulated at all.

4. Concept of the New Approach and the Global Approach

The creation of a single market by 31 December 1992 could not have been achieved without a new regulatory technique that set down only the general essential requirements, reduced the control of public authorities prior to a product being placed on the market, and integrated quality assurance and other modern conformity assessment techniques.

A new regulatory technique and strategy was laid down by the Council Resolution of 1985 on the New Approach to technical harmonisation and standardisation, which established the following principles:

Legislative harmonisation is **limited to essential requirements** that products placed on the Community market must meet, if they are to benefit from free movement within the Community.

The technical specifications of products meeting the essential requirements set out in the directives are laid down in **harmonised standards**.

Application of harmonised or other standards remains **voluntary**, and the manufacturer may always apply other technical specifications to meet the requirements.

Products manufactured in compliance with harmonised standards benefit from **a presumption of conformity** with the corresponding essential requirements.

The operation of the New Approach requires that the standards offer a guaranteed level of protection with regard to the essential requirements established by the directives, and that the national authorities carry out their responsibilities for the protection of safety or other interests covered by the directive.

In addition to the principles of the New Approach, conditions for **reliable conformity assessment** are necessary. The key elements in this respect are the building of confidence through competence and transparency, and the setting up of a comprehensive policy and framework for conformity assessment.

The Council Resolution of 1989 on **the Global Approach to certification and testing** states lays down general guidelines and detailed procedures for conformity assessment that are to be used in New Approach directives.

The New Approach directives are defined as directives that provide for **the CE marking**. In addition there are certain directives that follow the principles of the New Approach or the Global Approach, but which do not provide for the CE marking.

Selected New Approach directives:

- Low voltage equipment
- Toys
- Construction products
- Electromagnetic compatibility
- Machinery
- Personal protective equipment
- Medical devices
- Lifts

New Approach directives apply to products that are **intended to be placed (or put into service) on the Community market for the first time**. Consequently, the directives apply to new products manufactured in the Member States, and to new, as well as used and second-hand, products imported from third countries.

Products that have been subject to important changes may be considered as new products that have to comply with the provisions of the applicable directives when placed on the Community market and put into service.

5. Simultaneous application of directives

The placing on the market and putting into service can only take place when the product complies with the provisions of **all applicable directives**, and when the conformity assessment has been carried out in accordance with all applicable directives.

Where two or more directives cover the same product or hazard, the application of other directives can sometimes be excluded following an approach that includes a risk analysis of the product with a view to intended use as defined by the manufacturer.

6. Placing on the market and putting into service

Placing on the market is the initial action of making a product available for the first time on the Community market, with a view to distribution or use in the Community. Making available can be either **for payment or free of charge**.

A product must comply with the applicable New Approach directives when it is placed on the Community market for the first time and put into service.

Member States are obliged to take any measures necessary to ensure that products are placed on the market and put into service only if they do not endanger the safety and health of persons, or other interests covered by the applicable directives, when correctly constructed, installed, maintained, and used in accordance with their purpose.

7. Compliance with directives

Essential requirements lay down the necessary elements for protecting the public interest. Essential requirements are mandatory. Only products complying with essential requirements may be placed on the market and put into service.

Harmonised standards are European standards, which are adopted by European standards organisations, prepared in accordance with the General Guidelines agreed between the Commission and the European standards organisations, and follow a mandate issued by the Commission after consultation with the Member States.

Conformity with a national standard that transposes a harmonised standard confers **a presumption of conformity** with the essential requirements of the applicable New Approach directive that is covered by such a standard.

8. Conformity assessment procedure

Conformity assessment is subdivided into **modules**, which comprise a limited number of different procedures applicable to the widest range of products.

The modules relate to the design phase of products, their production phase or both. The **eight basic modules** and their eight possible variants can be combined with each other in a variety of ways in order to establish complete conformity assessment procedures.

Each New Approach directive describes the range and contents of possible conformity assessment procedures, which are considered to give the necessary level of protection. The directives also set out the criteria governing the conditions under which the manufacturer can make a choice, if more than one option is provided for.

9. Declaration of conformity

The manufacturer or the authorised representative established within the Community must draw up a declaration of conformity as part of the conformity assessment procedure provided for in the New Approach directives.

The declaration of conformity should contain all relevant information to identify the directives, according to which it is issued, as well as the manufacturer, the authorized

representative, the notified body if applicable, the product, and where appropriate a reference to harmonized standards or other normative documents.

10. Notified bodies

Notified bodies carry out the tasks pertaining to the conformity assessment procedures referred to in the applicable New Approach directives when a third party is required.

Member States are responsible for their notification. **Notification** is an act to inform the Commission and the other Member States that a body, which fulfils the requirements, has been designated to carry out conformity assessment according to a directive.

The Commission publishes **a list of notified bodies** in the Official Journal of the European Communities for information purposes.

The assessment of the body seeking notification determines if it is technically competent and capable of carrying out the conformity assessment procedures in question, and if it can demonstrate the necessary level of independence, impartiality and integrity

The primary task of a notified body is to provide services for conformity assessment on the conditions set out in the directives.

Notified bodies are free to offer their conformity assessment services, within their scope of notification, to any economic operator established either inside or outside the Community. They may carry out these activities also on the territory of other Member States or of third countries.

Manufacturers are **free to choose** any notified body that has been designated to carry out the conformity assessment procedure in question according to the applicable directive.

11. CE marking

The CE marking **symbolises the conformity** of the product with the applicable Community requirements imposed on the manufacturer.

The CE marking affixed to products is a declaration by the person responsible that:

- the product conforms to all applicable Community provisions, and
- the appropriate conformity assessment procedures have been completed.

The CE marking is **mandatory** and must be affixed before any product subject to it is placed on the market and put into service.

Where products are subject to several directives, which all provide for the affixing of the CE marking, the marking indicates that the products are presumed to conform to the provisions of all these directives.

The CE marking must be affixed by the manufacturer, or by the authorised representative established within the Community.

The CE marking **must be affixed visibly, legibly and indelibly** to the product or to its data plate. However, where this is not possible or not warranted on account of the nature of the product, it must be affixed to the packaging, if any, and to the accompanying documents, where the directive concerned provides for such documents.

Where a notified body is involved in the production control phase according to the applicable directives, its identification number must follow the CE marking.

12. Market surveillance

Market surveillance is an essential tool for the enforcement of New Approach directives.

The purpose of market surveillance is to ensure that the provisions of applicable directives are complied with across the Community.

Member States must nominate or establish authorities to be responsible for market surveillance. National surveillance authorities monitor that products placed on the market

comply with the provisions of the applicable national legislation transposing the New Approach directives. Subsequently, when necessary, they shall take action to establish conformity.

Market surveillance authorities must check that the affixing and use of the CE marking is correct, and that the principles regarding additional markings and marks are respected.

13. Managing the Single Market for goods

The EU is a club and all the Member States have agreed to abide by its rules. The success of the EU depends on the willingness of the Member States to cooperate with one another and with the EU institutions.

To heighten Member States sense of ownership of, and responsibility for, the free movement of goods in the Single Market, the Community is encouraging them to take on more supervisory tasks.

Citizens and businesses should be able to enjoy the advantages conferred on them by EU rules without seeking intervention by the Commission. National administrations (and failing that, national courts) must be capable of dealing effectively with the vast majority of problems encountered by citizens and businesses.

The EU can help by strengthening links with the Member States in the enforcement field, by seconding the staff of the Member States and organising training of national officials and judges. Member States can also help each other by improving their channels of communication and by exchanging ideas, practices and even staff.

14. Next steps: making the Single Market simpler

Clearly, there is a limit to how simple rules can be that govern complicated subjects like the free movement of goods across territorial borders. It is also true that, in terms of the total amount of legislation in force on this subject in the EU, rules adopted by the Community are just the tip of the iceberg.

Even so, the body of EU rules that regulates the free movement of goods must be constantly kept up to date, reviewed, refined and simplified. Why? Because overlapping, out of date, contradictory or just plain over-complicated rules make for a difficult and obstructive regulatory environment for EU businesses. Dealing with this gets in the way of their main activities and can seriously damage their ability to grow and provide employment.

But making Community rules simpler and better is a tricky business. It cannot be tackled using blunt instruments because those rules are not only designed to promote the free movement of goods but also to safeguard sometimes competing interests such as the protection of the environment, public health and safety, consumer protection and so on. Maintaining a balance between cutting red tape and preserving the European social model requires finesse.

How is this achieved? As regards to new legislation, the department of the European Commission that is proposing its adoption carries out an assessment of the likely economic, social and environmental consequences of the new law.

In 2006, an independent Impact Assessment Board was set up to ensure the high quality of these ‘impact assessments’. The Board works under the direct authority of the President of the Commission.

Its members are officials of the Commission departments most directly linked with the economic, social and environmental impact of the new law. They are appointed in their personal capacity and on the basis of their expert knowledge.

The Board can draw on additional expertise, from outside the EU institutions if necessary. It may give advice during the preparation of the impact assessment and ultimately delivers an opinion on its quality, which, although not binding, is taken into account when the Commission decides whether to adopt the new legislative proposal.

As regards existing legislation, the rules are evaluated after they have been in force for a while to check that they are still necessary, they are still up to the job and they are as straightforward and streamlined as possible while taking full account of considerations that are becoming ever more relevant to Europeans such as public health and safety, the environment and consumer protection.

The Commission embarked on a simplification programme in October 2005 with an initial batch of about 100 simplification initiatives. In November 2006, 43 more were added, extending the scope of the simplification exercise to all EU policy areas. The Commission has adopted 51 of these so far (July 2007) and a further 88 will be adopted by 2009.

Still, more initiatives will follow, as simplification is not a one-off event, but rather a process that will continue for a number of years.

References:

1. Allen, C., Gasiorek, M. and Smith, A. (1998), «European Single Market: How the programme has fostered competition»
2. PhD Janusz Kornecki (2008) - Doing business in the European Union- JD International Business Management
3. *** European Economy N 271 steps towards a deeper economic integration: the Internal Market in the 21st century: A contribution to the Single Market Review.
4. *** Eurostat 2007
5. http://ec.europa.eu/internal_market/top_layer/index_18_en.htm
6. http://ec.europa.eu/enterprise/regulation/goods/index_en.htm
7. www.wikipedia.org
8. http://www.newapproach.org/Directives/DirectiveList.asp "New Approach Standardisation in the Internal Market - Directives & Standards
9. http://www.eu2007.de/en/About_the_EU/Origins_and_Development/Internal_market.html
10. www.historiasiglo20.org/europe/acta.htm
11. http://www.cemarking.net/

Individual reason for approval or disapproval and group pressure in managerial team

University Professor PhD Constantin DRAGHICI
University Lecturer PhD Elena Daniela POPESCU
University of Pitesti
ec_draghici2005@yahoo.com

Abstract
The problem of motivation in the process of enterprise management is as difficult as important. Managerial team is for its members a reality, a function and a value, and the motivation of members of the group becomes essential in this regard.
Motivation is an internal factor which along with other internal factors (skills, character type, individual particularities, character features etc.). contribute to the determination of the manifestations of conduct. Motivation fulfills the role of general or specific activity, and as a source of activity it can ensure the conditions of the participatory-managerial process of the company.

1. Introduction

The problem of motivation in the process of enterprise management is as difficult as important. The difficulty lies in the fact we do not have the simple ways to change the motivation. Since in the participatory management may occur tendency to align with the views insufficiently substantiated or with a doubtful utility in the work of lifting the overall efficiency of the company, these events should not be overlooked. Eradicating these states also require that these tendencies stay in the team management attention and be resolved not only formally but also informally. In practice such efforts may encounter some difficulties.

Thus, in the managerial team may exist, along with pressure on those members with vision and inefficient events, the tendency to hedge against members who deploy the intellectual skills, training, responsible participation in the company management. In such cases intervention is necessary because such events are likely to diminish the effectiveness of managerial act.

Managerial team is for its members a reality, a function and a value, and the motivation of members of the group becomes essential in this regard. Motivation maintains the most closely relation to what is the meaning of conduct and team members work. It is the energetic support, incentive mechanism and integrator and explanatory factor of many psychosocial phenomena of the management of the company.

2. Motivation – an internal factor of a company

Motivation is *an internal factor* which along with other internal factors (skills, character type, individual particularities, character features etc.) contribute to the determination of the manifestations of conduct. Motivation fulfills the role of general or specific activity, and as a source of activity it can ensure the conditions of the participatory-managerial process of the company. In addition to the function of general activity, motivation performs a function of target in the sense that, affecting some functional systems, it contributes to the interaction with external stimuli to determine the direction of action.

Promoting participatory management of the company involves the organic need for dialogue and confrontation of views, experience. Activity in the managerial team allows a systematized and organized dialogue, in which the collective wisdom can be fully manifested

and it does not miss the confrontation of views, the fight views, control and mutual criticism. And that as the multilateral examination of the investigated problem and the best solution - as a central objective in the work of managerial team - can be assured only by confronting critical comments and positive proposals. In fact, the main psychosocial function of managerial team consists of exchange of views, exchange of comments and arguments, useful for the optimal solution.

Since the practice confirms that in the case of the managerial team prohibition, availability, coercion cause attitudes of opposition, it appears as natural the concern of influencing the team members in the process of participation in enterprise management using positive conviction methods in the case of intentional dependency.

3. The motivational forces character at the managerial team level

Our study conducted in 2 companies on the motivational forces character at the managerial team level has given us the opportunity to reach some important conclusions:

- ♦ by the way how to use motivations results of the team members participation in all activities of management and the results followed prove to be an efficient and superior process;
- ♦ the best training in participatory management of the company when each member of the team feels responsible for the common goals of unity and act concretely and take operational implementation;
- ♦ in the managerial process of company motivation determines the ease with which team members participate in drawing up collective decision or passing on the performance and monitor the implementation of its resistance that oppose the critical situations, the persistence in time of action to achieve;
- ♦ because the managerial team members influence and support each other, individual motivation cannot be effective unless it is supported by the collective motivation of the whole body;
- ♦ at the level of managerial team we can speak of a mechanism based on self-motivation, which trigger reactions of defense against the trends of non-participation in the factory management or against those who use the presence in the managerial team to solve their personal problems only.

Pressure group in the management team appears in cases when the views of the authors of the proposals made can not be harmonized. Typically, the collective decision is a selection of several ways of solving, proposed by one or more members of the team.

There are situations when one of the variants can convince itself by itself or through a rational and responsible argumentation to impose without divergence of views.

In the case when authors views do not harmonize, it is decided with simple majority of the total number of members of the body. In this situation there is no hierarchy of power but is decided by the majority, according to the perseverance rule of experience namely that it is easier to one or a few to be wrong than most.

4. Conclusion

In conclusion, if is properly understood and appreciated the wide range of motives in managerial team, in the sense that it has been mentioned above, this may lead to a large number of possible solutions which will have their particularities for each one of the companies, because both team members and managerial staff to be conducted are different in each case.

References

1. R. Mathis, P. Nica, C. Rusu, **Human Resource Management**, Ed Economic, Bucharest, 1997
2. Petrescu, **Human Resource Management,** Ed Lux Libris, Brasov, 1995
3. R. McDermoff, R. Mikulak, M. Beauregard**, Develope Initiative and Creativity of Staff,** Dunod, Paris, 1996
4. Samuelson P., Nordhaus W., *Economics,* Romanian edition copyright 2000 by Teora
5. Hubert Jaoui, **Creativity,** Morisset, Paris, 1995

Innovation - Five opportunities for the Automotive Industry

Assistant professor PhD Student Nicoleta ISAC
Faculty of Economic Sciences, University of Piteşti
nicoleta_isac2004@yahoo.com

Abstract
Product innovation has been a hallmark of the automotive industry since the first car was built. To drive innovation, automotive companies have to extend their thinking about innovation beyond products and services to business model innovation, collaborate extensively with external partners (suppliers, customers, nonindustrial players, dealers) and companies can position themselves for substantially improved business performance.

Keywords*: organization, automotive, innovation, research*

Every automotive company today is communicating innovation messages in the media and to analysts: "Innovation is our mission."– William Clay Ford, Jr., Chairman & CEO, Ford Motor Company, "Innovation drives our company and is the key to the worldwide success of DaimlerChrysler."– DaimlerChrysler Web, "Toyota is turning challenges into business opportunities by accelerating the pace of its innovation to achieve new growth." – Hiroshi Okuda, Chairman, Toyota 2004 annual report, Chairman's Message IBM has identified five key opportunities for automotive companies.

1. **Automotive companies need to transform engineering research and development (ER&D) to be more effective in product creation, design and development**

Figure 1 indicates product and services innovation is the top priority for the automotive industry.

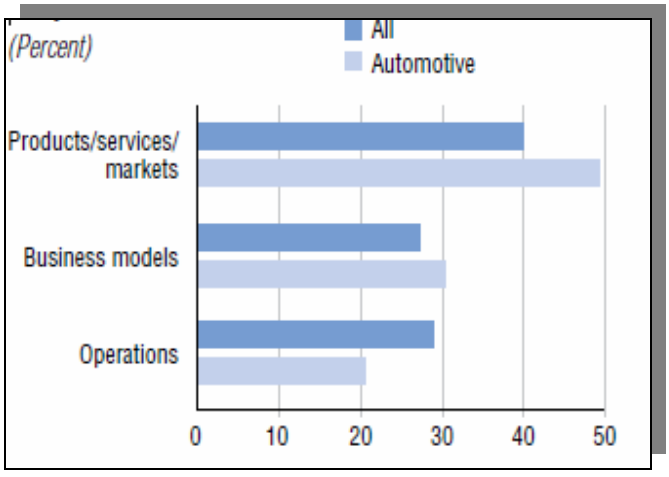


Figure1. Business leaders' innovation priorities for next two years
Source:The Global CEO Study 2008

Automotive companies must institute best practices throughout the organization, including:

- Early identification of market shifts and consumer insights;

- Product visioning and portfolio management;
- Scientific management of lifecycle innovation (e.g., when to refresh, renew, end product);
- Operating models that deliver differentiating products and services;
- Relevant metrics to improve service performance.

2. Automotive companies should pursue more business model innovation

Business model innovation adopters had higher operating margin growth than those pursuing other types of innovation, and those strong performers – companies that had grown operating margins faster than their competitive peers over the last five years put more emphasis on business model innovation (see Figure 2). As automotive companies face crises, many are beginning to look at new business models, such as alliances, new manufacturing models, pay-as-you-go services and strategic outsourcing of noncore functions.

But other industries are much more aggressively pursuing business model innovations. Samsung, for example, consolidated operations, partnered with specialty providers and outsourced noncore functions.

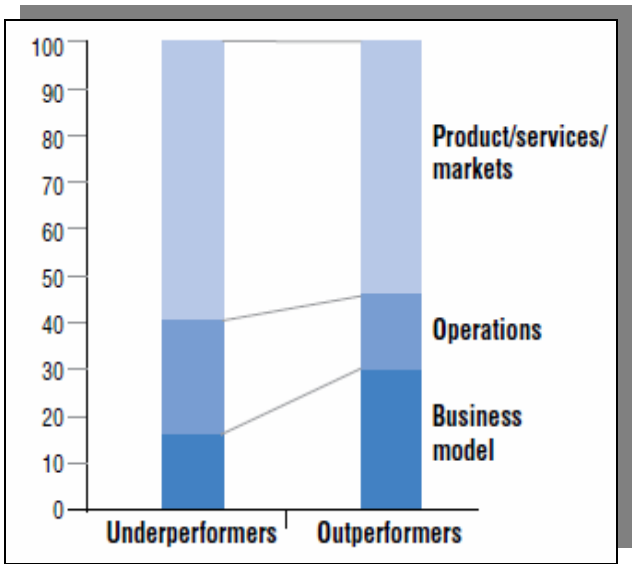


Figure 2. Strong performers more likely to emphasize business model innovation, based on operating margin growth over five years as compared to competitive peers.
Source: The Global CEO Study 2007

3. Automotive companies can leverage more external partnerships and collaboration to drive innovation

Executives across all industries, including automotive, look to "outsiders" for new ideas. One leader that was interviewed indicated that "it would be counterproductive to do everything yourself" while another felt "we need to create ways to leverage the capabilities of different players in the ecosystem."

However, companies in general and automotive companies specifically have difficulty implementing external collaboration. While 66 percent of automotive respondents felt collaboration was of significant to critical importance, only 39 percent felt they collaborate to a large extent.

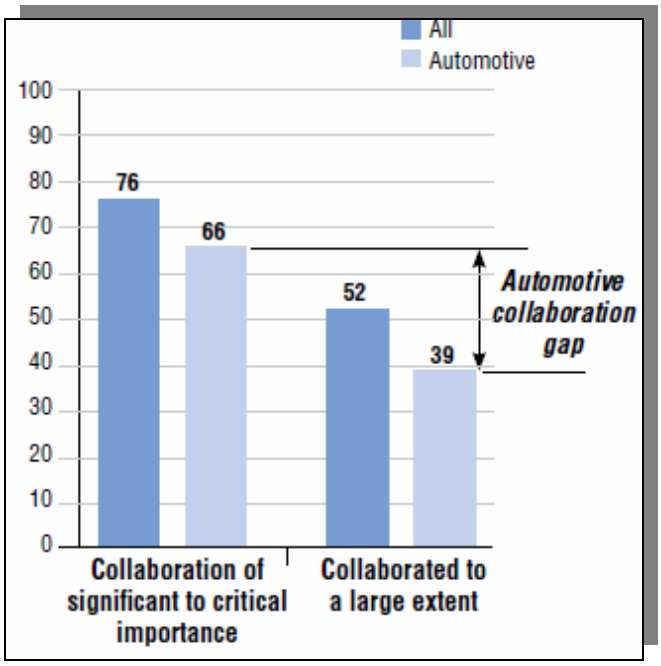


Figure 3. Importance of collaboration to innovation
Source: PricewhaterhouseCoopers AUTOFACTS

We see several areas within the automotive business where external collaboration will be even more important for future innovation. The integration of electronics and automobiles provides unprecedented opportunities for noncompeting companies to partner together to deliver even more innovative solutions than each could do on its own. For example, IBM and Valeo have partnered on a joint development centre for embedded software in vehicles.

4. Automotive companies can better integrate business and technology to stimulate innovation

Technology adoption is occurring at a rapid pace at multiple levels in the automotive industry. This adoption can be seen in such areas as virtual simulation testing of product designs, the continued automation of manufacturing facilities and, clearly, in-vehicle technologies. However, when surveyed executives rated the level of business and technology integration in their own businesses, the automotive industry ranked as least integrated, compared to all other industries (see Figure 4).

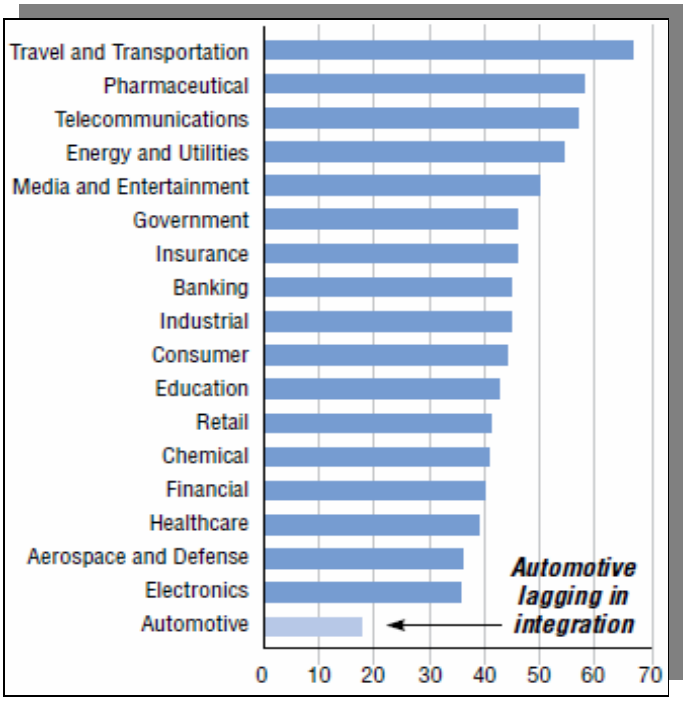


Figure 4. Level of business and technology integration
Source: PricewhaterhouseCoopers AUTOFACTS

5. Making innovation operational and overcoming innovation inhibitors

This includes defining and managing partnerships with external players, and establishing a climate and culture conducive to innovation. One place to start is addressing obstacles to innovation. Automotive business leaders identified the top three innovation obstacles as: limited funding for investment, process immaturity and an unsupportive culture and climate.

6. Conclusion

Today product innovation continues to be at the core of every automotive business. But, with the increased pace of change across virtually all aspects of the industry – customers, markets, products, technology, workforce, etc., companies must explore and embrace additional innovation strategies to compete and succeed.

Bibliography:

1. From Wikipedia, the free encyclopedia, http://en.wikipedia.org/wiki/Automobile 2007
2. "Expanding the Innovation Horizon: The Global CE O Study 2006." IBM Global Business Services. March 2006.
3. Hudson, Larry and Nabil Sakkab. "Connect and Develop: Inside Procter & Gamble's New Model for Innovation." Harvard Business Review, March 2006.
4. "Valeo and IBM to Collaborate for Automotive Software Development." IBM press release, May 4, 2005.
5. www.ibm.com/bcs/ceostudy

Some Potential Econophysics' Models for Real Economic Convergence

University Senior Lecturer PhD Gheorghe SĂVOIU
University of Pitesti
gsavoiu@yahoo.com

Abstract
This paper regards Econophysics' model and its better way to characterise modern scientific researches in classical Economics. Some potential Econophysics' real convergence models offer an adequate measurement of relationships between the national economic development variables and regional or European economic development. The article chooses some examples based on Econophysics' thinking, and it sets up the importance of diffusion model as a physical model applied in Economics. First of all, this paper analyses the concept of economic convergence and then the Econophysics' contribution and supporting for understanding the economic development. Finally some potential Econophysics' models are detailed and some remarks put forward the policy suggestion for promoting economic development of Romania in EU.
Keywords: *Real convergence, divergence, cohesion, club convergence, econometrical model of regression, Econophysics, Econophysics' model, business cycle, σ-convergence, ß-convergence.*

1. Introduction

Studies of the economic convergence have an enormous importance because of their considerable influence on all of the economical results regarding in the national as well in the European or global aspect. Two general points of view are now more and more significant. Thus, first it is impossible to analyse the importance of real economic convergence of the GDP as an essential aggregated economical indicator of the nations just by a separated economical index or indicator. It becomes necessary to develop a lot of alternative compound indicators of the economical results which can present the economical situation in real time on reliable way and show the true stage of the actual real economic convergence, and whose prognosis can be used for forecasting the next economic convergence's stages on a short-term as well as on the long-term. Relationships between the economic convergence and some main economic indices, as index of real GDP, or index of real net income per inhabitant are usually more studied (GDP/capita, final consumption, investments, net exports etc.). The second problem is the adequate model of analysis. Econometrical models joining the indicators of the main economic results to present the economic convergence are estimated in an excessive generalized point of view. This paper underlines the importance of some potential Econometrics' models in development of the economic measurement's relevance.

2. The Concept of Real Economic Convergence

European convergence of UE countries is usually addressed from two viewpoints: business cycle synchronisation (European integration and associated exchange rate mechanism have produced a region-specific European business cycle that has become more synchronized around the German business cycle and less attached to the US cycle) and *real economic* convergence [1]. In the recent literature that examines different synchronisation's questions, an interesting answer that is given underlines how business cycle synchronisation can be broken once different sub-periods are analysed. "In general one could reject the null of independent recession dates in the G7 countries. Overall, these rejections are consistent with an interpretation of regional synchronisation"[2].

Real convergence is an essential objective of Romania's integration into the EU. Bridging the development gaps between Romania and the EU as soon as possible cannot be achieved

exclusively through market forces, since they rather tend to cause divergence and polarization. For this purpose, special tools and mechanisms are required (e.g.: cohesion). Many studies deal with the economic convergence of the European countries and especially the convergence of the UE27 countries, including Romania. Models are used to assess the economic growth, approximate the period of real convergence of Romania to the EU, as well as to estimate the σ- and ß-convergence, and the main shortcomings of the last indicator. Within the current complex economic and dynamic environment, integrationist processes are particularly taking place in various geographic areas in different forms and at variable intensity. This integrationist phenomenon of economic convergence occurs continuously or intermittently or this phenomenon may be related to the emergence of cooperation in social/ecological systems.

What economic integration really means? Economic integration means reaching the aims of social and economic convergence, aims which are periodically defined and updated according to historic requirements. The convergence issue holds a major role in the theory of economic growth. The hypotheses of catching up with rich countries by the poor ones has been vastly debated upon, emphasizing the fact that not all countries converge to the same equilibrium level (”steady-state”) and thus it is likely for poor countries not to have substantial economic growth, as the Solow growth model suggests. For these reasons, a lot of authors reckon that the issue of ”convergence” clubs holds true, noticing there are only convergences among those countries that have exceeded a certain ”critical level” of per-capita incomes and human capitals. From the perspective of modelling, convergence is defined by a set of indices that reflect the criteria beyond the convergence requirement. Yet, the correct definition of these criteria differs not only from one time to another, but also from one case to another. The neoclassical theory of economic growth basically stipulates that all economies characterized by the same basic parameters (related to the production function) shall reach the same development level, irrespective of their initial position [3], [4], [5].

Three hypotheses of real convergence have been set up based on this conclusion:

- *the hypothesis of absolute (unconditional) convergence* – the level of incomes/capita in various countries converges on long term, no matter their original circumstances;

- *the hypothesis of conditional convergence* - the level of incomes/capita in countries having identical fundamental structures converges on long term, not depending on original circumstances;

- *the hypothesis of ”club convergence”* - the level of incomes/capita in countries having identical fundamental structures converges on long term, provided the original circumstances are similar.

The empirical assessment of these hypotheses has lead to the quantitative definition of two types of real convergence:

- type β convergence, a concept emerging from neo-classical growth models assuming diminishing returns in production, refers to a potentially negative relationship between growth in per capita GDP and the initial level of income of a country, so that poorer countries may grow faster than richer countries, and thereby catch up with these richer countries, whereas in the context of conditional convergence, the same phenomenon is taking place, yet according to certain determining factors;

- type σ convergence that shows a decreasing level of per capita incomes in a set of countries (σ convergence is related to the income distribution of a set of economies. In fact, the existence of σ-convergence implies that the world income distribution shrinks over time. Thus, for example, if we consider the variance (or the standard deviation) of the log of GDP at a certain time t and at time $t + T$ ($T > 0$), we say that there is σ-convergence for a given set of economies and for a given period of time (T), if: $\sigma^2(t) > \sigma^2(t + T)$. [1]

The realistic interpretation of the trends in the evolution of the economies towards the state of convergence and the rate at which the economies achieve convergence demanded the proposal and econometric testing of the new calculation tools and models, such as the β and σ indicators.

The economic parameter β shows the speed of the convergence when the parameter is negative and σ shows the convergence or divergence trend, as this factor shows respectively the narrowing or the expansion of the dispersion of the sample of analysed data. [6]

By reducing the income differences among countries, one can reach real convergence. If countries do not have the same structural features, the long-term equilibrium differs – the situation of conditional real convergence. The process is characterized by a negative relationship between the original income level and the economic growth rate, but if the structural characteristics are not the same, the growth differences may be kept or even increased (there is no more income convergence); although poor countries develop faster than rich countries, the growth differences remain significant. As far as Central and Eastern European countries are concerned, it is highly unlikely that neoclassical hypotheses of the Solow model be applied there during the first years after communism collapse, due to the lack in functional market economy. It may be assumed that along with these countries' transition to market economy, the neoclassical growth factors (private consumption, saving, investment) are becoming more and more important in the promotion of economic growth.

The idea of "convergence clubs" (convergence groups) is relatively new and involves different convergence behaviours at the ends of income distribution: there is convergence both in the set of rich and poor countries, only its direction differs. The rich are becoming richer and the convergence occurs by the increase in the GDP/capita, whereas the poor are becoming poorer, with convergence occurring by GDP decrease. "*Beta*" convergence is necessary for "*Sigma*" convergence (gaps inside a set diminish if poor countries develop faster than the rich ones), but not enough (a country is likely to grow faster than the average, without the reduction of development gaps among them). The recent examples of certain states' accession to the EU demonstrate that the official accession time itself does not mean the cohesion or conformity with average standards. The convergence process lasts long and involves the time of accession within itself. The "convergence" notion has multiple connotations, being significant both for the institutional framework, nominal economy, and real economy. The main trait of the EU accession process of transition countries is rendered by the difficulty in achieving real convergence. At the present, the EU has no rules for achieving real convergence either between member and candidate states, or among candidate states alone. There is a major involvement of the missing real convergence during the accession preparations. It ensues from the fact that the two aspects – nominal convergence (especially meaning the convergence with the EU inflation rate) and real convergence – cannot be considered separately, but influences each other by means of the real exchange rate variation. In specialized literature, there are at least two ways of approaching the issue of transition countries' convergence, among them and between them and EU countries. The former approach is to anticipate the potential growth of transition countries based on the models observed in other countries on long term. The surveys methodologically rely on the long-term connection between economic growth and several factors, the estimation being made for a large number of countries. They have tried according to these types of studies to calculate a certain period of time needed by transition countries in order to catch up with the EU member states. The latter potential approach is the one to find the factors determining candidate countries' delay reduction as compared to the Union member states. As it is a long-lasting process, the logical result is the connection between real convergence and factors' evolution ensuring long-term economic growth, i.e. the factors that contribute in reaching high productivity and efficiency levels.

3. Econophysics' Thinking – A New Scientific Way of Thinking in Economics

Econophysics, an "interdisciplinary research field applying methods of statistical Physics to problems in Economics and finance"[7], a science resulting from the use of physics principles and laws to solve or redefine certain economic issues, may supply a valid framework for

analyzing real economic convergence. The flexible approach generated by econophysics application may lead to setting recommendations of global or local policies, creating predictions regarding economic growth dynamics as well as to planning and evaluating the effects of the economic field regulations.

The neologising of the term Econophysics by Rosario Mantegna and H. Eugene Stanley at the second Statphys-Kolkata Conference in 1995, represents the official document of Econophysics, born as a new, interdisciplinary, multidisciplinary and transdisciplinary science. Physics has probably had a dominating effect on the development of formal economic theory; however, the historical interdisciplinarity between physics and economics, established through Econophysics, seems very likely to be a model for the future of the multidisciplinary sciences [8]. Transdisciplinarity suggests a deeper synthesis of approaches and ideas from the two main disciplines involved in the Econophysics, during a short or medium period of time. The same importance must be given to all interactions between economics and physics as well as between the two types of scientific researchers and demographers, sociologists, mathematicians, linguistics, etc.

The role of physics models as the foundations for the standard neoclassical model that current econophysicists seek to displace is much older than two centuries, the best arguments being N.F. Canard's work, since 1801, where supply and demand were ontologically like contradicting physical forces, or central concept of general equilibrium theory in economics, where its author Léon Walras' was deeply influenced by the physicist Louis Poinsot. But all of these historical opinions agree unanimously the primordial roots in statistical mechanics approach date back to 1936, when Majorana wrote a pioneering paper, published in 1942 and entitled *Il valore delle leggi statistiche nella fisica e nelle scienze sociali.* First of all, the application of concepts as power-law distributions, correlations, scaling, unpredictable time series and random processes to financial markets was possible only after physicists have achieved important results in statistical mechanics, due to other significant statistical investigations and mathematical formalizations. The oldest example of an adequate law or mathematical distribution to the wealth of individuals in a stable economy belongs to an Italian economist and statistician named Vilfredo Pareto. The progress of the financial mathematics realized by Louis Bachelier in his doctoral thesis entitled *Théorie de la speculation,* since 1900, that quantifies the probability of price changes, and the differences of the logarithms of prices that are distributed in a Gaussian manner, and thus it is an anticipation of Albert Einstein's or Norbert Wiener's researches [9], [10]. Three major events underline the evolution of Econophysics, first in 1973, with the appearance of a rational option-pricing formula, like Black & Scholes' formula, than after 1980, the huge amount of electronically stored financial data readily available, and finally since the 1990s, a growing number of physicists have attempted to analyze and model financial markets and, more generally, economic systems [11],[12].The researches of Econophysics deal with the distributions of returns in financial markets, the time correlation of a financial series, the analogies and differences between price dynamics in a financial market and physical processes as turbulence or ecological systems, the distribution of economic stocks and growth rate variations, the distribution of firm sizes and growth rates, the distribution of city sizes, the distribution of scientific discoveries, the presence of a higher-order correlation in price changes motivated by the reconsideration of some beliefs, the distribution of income and wealth, the studies of the income distribution of firms and studies of the statistical properties of their growth rates.

The first Econophysics models published by physicists in a physics journal were those of Mantegna (1991) and Takayasu (1992), though developed a few years earlier. Stigler from the Chicago economics school already published even a Monte Carlo simulation of a market in 1964. Nobel laureate of Economics, Markowitz H.M. published too with Kim a model for the 1987, about the crash on Wall Street [13], [14], [15]. After the year 2000, Econophysics has

matured enough to allow generalized applications, their field being called sometimes Econo-Engineering.

There is a real contemporary necessity for exploring the new conceptions of Statistical Physics and Econophysics and for using their models and concepts or theoretical details, as important explicative factors for real economic convergence. The special potentiality of Econophysics' models is able to reveal new prognosis more and more relevant related to convergence of Romanian economy into the EU.

4. Some potential Econophysics' Models

The Econophysics' models are often better than the model of classical statistics, or the econometrical model. As far as the econometrical model is concerned, even John Maynard Keynes had said that it couldn't make further progress unless it invented new, better models. In the field of the forecasts, the progress consists in gradual improvements on the models, in choosing new methods of model optimization. In order for a model to be able to preserve its generality and value as a modality of thinking, it is necessary that it should not contain real values for its variable functions, because otherwise it becomes unusable. In economics, introducing figures into a model conduces to annulling its value from the standpoint of perennialness use, because the figures will not match another test. A conclusion of the thinking specific to Econometry, and implicitly of that specific to classical statistics, could be that turning a model into an exclusively quantitative formula means destroying its usefulness as a prediction instrument... Through generalization, the physical thinking construes the model by attaching to it a constant, which is dependent on the medium/environment (for instance, the Econophysics' models centred on the physical model of al diffusion). Applied to the economic medium, the model of *diffusion* in the science of physics consists in deriving a retail price on the market of promissory notes and certificates (exchanging for price "x" the stock on the economic market could be considered a random, or chance, variable among the dealers, which allows to construe, through derivation, a *diffusion* model on the market in question, a model which is subject to the rules of an equation of the type of the Brownian movement, in the case of a time-dependent distribution f (x, t), and starting from the market price in the stock):

$$\frac{\partial f(x,t)}{\partial t} = \frac{1}{k^2} \times \frac{\partial^2 f(x,t)}{\partial x^2} \qquad (1)$$

The viability of the model in understanding real economic convergence consists in the variability of the coefficient "k^2" as compared to the specificity of the economical medium, that is to say a distinct diffusion through activities generating GDP or net income per inhabitant, in completely different economies, like "water in completely different soils with respect to structure and composition". Very much as the measuring process gets us acquainted with quantum thinking, the concepts of statistical collective and ensemble, being tantamount to a number of sequences of probabilities and mean values of the variables of quantum physics, allow the mental associations among molecules or particles, and economic agents, or subjects. The world of physics thinking can impose to statistical thinking the probabilistic character of its forecasts, even in the case of a pure statistical collective, gradually eliminating the exclusively deterministic models of prognosis specific to classical statistics. Probabilistic density will thus generate forecasting models based on the probabilistic thinking structured in distinct scenarios. The merit of the quantum physics, of acknowledging its limits in foreseeing future events, centring round the principle of uncertainty, will become familiar to statistics, as well. Statistical thinking will also take over, in future, the simultaneity of the states of particle or wave, from quantum statistics, in an alternative approach to the various specific statistical units defined through binary states [16], [17].

Other models could be distributions of the form that follows a *power law* as*:*

$$\ln p(x) = -\alpha \ln x + C\,, \qquad (2)$$

where the constant α is called exponent of the power law, and C is constant and mostly uninteresting (once α is fixed, it is determined by the requirement of normalisation to 1), or in the case of taking the exponential of both sides, this is equivalent to:

$$p(x) = C\,x^{-\alpha} \qquad (3)$$

(a power-law distribution occurs in an extraordinarily diverse range of phenomena such as Finance, Macroeconomics, Demography's urbanism and, why not, even in real economic convergence). [18]

a fractal and chaos analysis originating as Benoite Mandelbrot pointed out that the change in the price of the stock market has a fractal structure for certain range of time interval [19, 20], and characterized as a self-similar structure expressed as:

$$x(t) = Ct^{D} \qquad (4)$$

where D is a fractal dimension, calculated by the box counting method.(the fractal structure is special case of a chaos and chaotic behaviour is very common in a non-linear system as for an economic system; whether the process is chaotic or not can be determined by sign of Lyapunov index λ defined as:

$$\lambda = 1/n \,\Sigma \log |F'(t)| \qquad (5)$$

and when λ is positive (negative) then the process is chaotic (non- chaotic). [21]

Modern Econophysics has developed a new learning system for econophysicists, a system consisting of several parts:

1) Basic Mathematics,
2) Basic Econometrics
3) Echonophysics, including chaos and fractals concepts,
4) Virtual market,

and reviewing concepts concerning to each part: Mathematical representation and analysis of the economic data for Basic Econometrics; the chaos and fractal including the Lyapunov index and the fractal dimension for Econophysics; the Sato-Takayasu model and simulation for Virtual market.[21]

Today, there still are some weaknesses in the Econophysics' models approaches in real economic convergence:

- a lack of awareness of work that has been done within economics itself;
- a resistance to more rigorous and robust statistical methodology;
- a belief that universal empirical regularities can be found in many areas of economic activity;
- an inadequate, theoretical model which is being used to explain somehow relative the diversity of the empirical phenomena.

5. Final Remarks

In a comparison to classical Economics new sciences like Econophysics and its new models have revealed that heterogeneous in economic and social reality must be explained with homogeneous in their theory and this is the most important improvement of the quality in the classical science and research. The main role of the Physics and its methods, like Statistical Physics or Quantum Physics for the beginning, was to unify and simplify classical Economics. The contemporary models of Econophysics improve the quality of classical Economics, Econometrics and even Physics and extend their themes, fields and final interpretations. The power of prediction or the higher level of exactness of the Econophysics' models remains the most important difference between this new and powerful science and classical Economics' and Econometrics' thinking. The complex studies of Econophysics try to capture the universal but temporary laws, from data manifested differently in different parts of the same body of natural phenomena, where information about population are made from more individuals than 10^{23} units

(cases). The future scientific thought about real economic convergence will be nothing else but statistical, either it will be a generalized thinking as in Statistical Physics, or a classical distinctive statistical or econometrical thinking.

Notes and References

[1] Gligor, M., Ausloos, M. (2008), *Convergence and cluster structures in EU area according to fluctuations in macroeconomic indices,* Journal of Economic Integration Issue:Vol. 23, Number 2/June, pp.297 – 330.
[2] Bodman, P., Crosby, M. (2005) *Are Business Cycles Independent in the G7?* International Economic Journal, 19, pp.483-499.
[3]*** *Convergence et disparités régionales au sein de l'espace européen*, XL-ème Colloque de l'ASRDLF (Association de Science Régionale De Langue Française), Bruxelles, 1-3 Septembre 2004;
[4]*** *The Real and Nominal Convergences in Romania's EU Accession,* Collection on National Bank Library no.34, Enciclopedică, Bucharest, 2005.
[5]*** *Romania and the European Union. Convergence Issues,* Collection on National Bank Library no.33, Enciclopedică, Bucharest, 2005.
[6] Iancu, A. (2007), *The Question of Economic Convergence,* Romanian Journal of Economic Forecasting, no 4 pp. 5-18.
[7] Yakovenko V.M, (2007), *Econophysics, Statistical Mechanics Approach to*, Encyclopedia of Complexity and System Science, Springer http://refworks.springer.
[8]Chakrabarti, B.K.(2005), *Econophys-Kolkata: a short story, in "Econophysics of Wealth Distributions*," Eds. Chatterjee A, Yarlagadda S, Chakrabarti BK, Springer, Milan, pp. 225-228.
[9] Ball P, (2004), *Critical Mass: How One Thing Leads to Another*.Farrar, Straus and Giroux,New York.
[10] Mirowski P, (1989), *More Heat than Light: Economics as Social Physics. Physics as Nature's Economics,* Cambridge University Press, Cambridge.
[11]Mantegna RN, Stanley HE, (2000), *An Introduction to Econophysics: Correlations and Complexity in Finance,* Cambridge University Press, Cambridge pp. VIII-IX.
[12]Fischer J, Scholes M,(1973), *The Pricing of Options and Corporate Liabilities,* Journal of Political Economy, pp.637-654.
[13] Stigler G.J., (1964), *Public Regulation of the Securities Market,* Journal of Business 37, pp. 117.
[14] Kim G.W. & Markowitz H.M.(1989), *Fall 1989*, Portofolio Management 16, pp. 45
[15] Burda Z, Jurkiewicz J, Nowak MA, (2003), Is Econophysics a Solid Science? Acta Phys. Polon. B3487 http://www.arxiv.org/ abs/ cond - matpapernum /0301096
[16] Yougui Wang, Jinshan Wu, Zengru Di (2004) *Physics of Econophysics*, www.arxiv.org/abs/cond-mat 0401025, vl, 4 Jan, published in may 15, 2006.
[17] Săvoiu, G., (2008), *The Scientific Way of Thinking in Statistics, Statistical Physics and Quantum Mechanics*, Revista Română de Statistică, nr. 11-2008.
[18] Mandelbrot, B.B. (1963), The Variation of Certain Speculative Prices. *J. Business* 36, pp. 394-419.
[19] Mandelbrot, B. B., (1983), *The Fractal Geometry of Nature*, *W.H. Freeman and Co.*
[20] Mandelbrot, B. B., (1997), *Fractals and Scaling in Finance*, *Springer-Verlag*
[21] Longjie Cui, Keisuke Yamada, Makoto Kaburagi, Min Kang (2005), *WEB Based Learning System for Econophysics, Annual International Conference, July 7 – 9, 2005, Juan Dolio, Dominican Republic,* IEEE, 0-7803-9141-1/05, pp 1-2
[22] Farmer D. J, Shubick M., Smith E., (2005), *Is Economics the Next Physical Science,* American Institute of Physics, S-0031-9228-0509- 010-1, pp. 37-41.

The importance of actuarial accounting for the assessment of the elements of the financial statements

University Senior Lecturer PhD. Victoria FIRESCU
University of Piteşti
firescuvictoria@yahoo.com

Abstract
Actuarial accounting as a new evaluation basis and its associated present values or utility values are mentioned in relation to the normalization accounting of asset depreciation. For example, the American Financial Accounting Standards Board (FASB) published, in 1995, FAS 121, a standard concerning the accounting treatment of the depreciation of long-term assets, while the International Accounting Standards Board (IASB) approved IAS 36 standard "Asset Depreciation" concerning the measurement and recognition of an asset impairment, when the recoverable value of the asset is lower than its book value. The standard concerns the depreciation of tangible and intangible assets.

Key words*: recoverable value, depreciation,fair value,utility value*

Introduction

The utility value is a discounted value that is measured by evaluating future expected cash flows from the continuous usage of an asset and from its transfer, at the end of its economic life. IAS 36 “Asset Depreciation” reflects the procedures used by an entity to determine whether its assets are depreciated, i.e. whether they are entered with a higher value than their recoverable value. IAS 36 also specifies when a company must resume an impairment loss and recommends that certain information related to the depreciated assets should be presented.

The standard is applied in the accounting of all the assets’ depreciation, except those that constitute the scope of other standards: stocks (IAS 2, « Stocks »), assets of the construction agreement assets (IAS 11, « Agreements for Constructions »), etc.

In order to determine whether a re-evaluated asset can be depreciated, the basis used for the measurement of its fair value should be considered.

1. The calculation of the recoverable value and the assessment of the impairment loss

In compliance with IAS 36, the recoverable value is the highest value of: the fair value of an asset or of a cash-generating unit less costs to sell and its value in use.

In order to calculate the recoverable value of one asset there are three applicable rules:

- if the fair value, except the costs to sell, or the value in use of the asset, are higher than its book value, the recoverable value is no longer calculated or estimated, because the active is not depreciated ;

- if the fair value, except the costs to sell cannot be calculated, the recoverable value of the asset can be regarded as its value in use;

- if the asset is owned with the special purpose of being sold, the recoverable value can be regarded as its fair value, except the costs to sell.

In order to exemplify the method of calculating the recoverable value and finding whether there is an asset impairment loss for each accounting period, we take into account the following information related to the fair value less the costs to sell (VJN), the utility value (VU) and the net book value (VNC) of an item of technological equipment:

a) year N : VJN=150,000 m.u., VU=225,000 m.u., VNC=180,000 m.u. ;
b) year N +1 : VJN=108,000 m.u., VU=96,000 m.u., VNC=120,000 m.u. ;
c) year N +2 : VJN=133,000 m.u., VU=175,000 m.u., VNC=140,000 m.u.

By analysing the recoverable value (VR) that is maximum (VJN, VU), we obtain the following results:
- year N : VR=225,000 >VNC=180,000 m.u. There is no impairment loss;
- year N +1 VR=108,000 <VNC=120,000 u.m There is an impairment loss of 12,000 u.m
- year N +2 : VR=175,000 >VNC=140,000 m.u. ; There is no impairment loss

The recoverable value of a cash-generating unit is the maximum between the fair value less the costs with the transfer to this unit and its value in use.

In order to exemplify the method of estimating the recoverable value of the cash-generating unit, we are taking into account the following application:

A mining company is testing the mine for depreciation. The restoration cost at the end of the mining activities is recognized as being 750 m.u., this cost being recognized as part of the mine cost and being depreciated along its useful life. The book value of the provision for the restoration is 750 m.u., an equal value to the discounted/present value of the restoration costs. The cash-generating unit for the mine is the mine itself, taken as a whole. The offers to purchase the mine are made for the price of 1,200 m.u., this price also including the buyer's taking-over of the obligation to restore the mine land. The costs to sell the mine are insignificant. Its utility value is approximately 1,800 m.u., excluding the restoration costs. The book value of the mine is 1,500 m.u.

Based on the above-mentioned data, the obtained results are as follows:

-the fair value less the costs to sell for the cash-generating unit is 1,200 m.u., this value includes the restoration costs;

- the utility value of the cash-generating unit is calculated by taking into account the restoration costs, consequently: 1800-750 =1,050 m.u.

- the book value of the cash-generating unit is the book value of the mine (1,500) less the book value of the provision for the restoration costs (750) ;

- the recoverable value of the cash-generating unit is maximum (1200, 1050) =1200, a value that is higher than its book value;

- in conclusion, there is no impairment loss for the analysed cash-generating unit.

2. The calculation of the fair value, less the costs to sell

According to this standard, the costs to sell does not represent all the costs implied in the selling process, but only the costs that are directly related to the asset selling process, such as: legal costs, post fees, and the taxes for similar transactions, asset transport costs, additional direct costs with bringing an asset to an optimal selling condition.

The calculation of the fair value, less the costs to sell, is made by taking into account the following rules:

- the fair value except the costs to sell is the price of the transaction an objectively agreed price, adjusted function of the marginal costs related to the transfer of the respective asset, when there is a binding sale agreement;
- if there is no binding sale agreement, but an asset is traded on an active market, the fair value except the costs to sell is the market price of the asset, less the transfer costs;
- if there is no sale agreement or no active market for an asset, the fair value except the costs to sell is based on the best available information in order to represent the amount a company could obtain, on the date of the balance, by willingly selling the active, between two aware parties, within a transaction in which the price is objectively agreed, after the deduction of the transfer costs.

The calculation of the fair value less the costs to sell is exemplified below:

Suppose the company ALPHA owns an asset that they intend to sell for a sale price assessed by the assessor to 755,000 m.u. The costs related to the preparation of the asset for sale are 5,500 m.u.

Consequently, the net fair value =fair value – costs to sell =755,000 m.u.- 5,500 m.u.=749,500 m.u. The costs to sell are the costs incurred to dismantle the equipment, packaging costs, as well as the costs with the documents necessary to close the deal.

3. The assessment of the utility value of the asset

For the calculation of the utility value of an asset, the following aspects will be taken into account:

- the assessment of the future cash flows that the entity expects to obtain for the respective asset;
- the expectations about possible variations in the amount or timing of those future cash flows;
- the time value of money, depending on the current market risk-free rate of interest ;
- the price for bearing the inherent uncertainty in the asset ;
- other factors, such as illiquidity, that market participants would reflect in pricing the future cash flows the entity expects to derive from the respective asset.

The assessment of the utility value of an asset implies following the steps below:

- the assessment of the future cash entries and outflows generated by the continuous usage of the asset and by its transfer;
- the application of the adequate discount rate to these cash flows.

This model takes into account two important factors:

- the future cash flows (cash entries and outflows derived from the continuous usage of an asset, and from the transfer of the asset);
- the adequate discount rate for these future cash flows.

The calculation of the utility value and that of the impairment loss of an asset or a cash-generating unit[20] is emphasized in the application below:

One item of technological equipment that has three years left of its useful life is used for the manufacturing of a product for which the demand on the market is going to increase by 10% in the next few years. Taking into account that the net income from the sale of the products in the previous accounting period N was 12,000 m.u. and the adequate discount rate for the cash flows derived from the technological equipment was 5%, we should assess the utility value of that asset

The utility value is then assessed by applying the adequate discount rate to the future cash flows as illustrated in the table below:

Table no.1

The calculation of the utility value

Year	**Cash flows m.u.**	**Discount rate**	**The discounted value**
N+1	12.000 X 1.10=13.200	$(1+5\%)^{-1}$=0.9524	12.572
N+2	13.200 x 1.10 =14.520	$(1+5\%)^{-2}$=0.9070	13.170
N+3	14.520 x 1.10= 15.972	$(1+5\%)^{-3}$=0.8638	13.797
The utility value of the technological equipment			39.539

[20] Liliana Malciu(Feleagă), based on R.T. Tully, IAS 36 Impairment of Assets, Accountancy Tuition Centre Limited

In order to illustrate the method of evaluating the impairment loss, we shall use the following application:

The useful life of an item of equipment was estimated to be 12,000 hours of use at the moment when it was purchased. The number of products made is 5 pieces per hour and the assessed net cash flows derived from the sale of a product are 1o m.u./piece. At the end of the accounting period N, there are signs that the item of equipment has depreciated, due to the following aspects:

- *the equipment was purchased at the beginning of N, for an acquisition cost of 588.000 m.u.*
- *the cash flows are applied the discount rate of 10% ;*
- *the fair value of the equipment is 480.000 m.u., while the transfer costs would be 8000 m.u. ;*
- *in the accounting period N, the equipment was operated for 1500 hours ;*
- *the managers of the company estimate that, during each of the 4 next years, the equipment will be operated for 2625 hours.*

Based on the above-mentioned data, we have:

- the impairment of the equipment in N is : (588,000:12.000) x 1,500=73,500 m.u.;
- the net book value of the equipment is: 588,000-73,500= 514,500 m.u.
- the fair value lass the costs to sell =480,000-8,000=472,000 m.u.
- the utility value is calculated in the table below:

Table no:2

The calculation of the future cash flows with a discount rate of 10 %

Year	Cash flows	The discounted value
N+1	1,500 hours x 5 pieces x 10 m.u .= 75,000 m.u.	75,000 x $1.01^{-1=}$ =74,257
N+2	2,625 hours x 5 pieces x 10 u.m. = 131,250 m.u.	131,250 x 1.01^{-2}=128,664
N+3	2,625 hours x 5 pieces x 10 u.m. = 131,250 m.u.	131,250 x 1.01^{-3}=127,390
N+4	2,625 hours x 5 pieces x 10 u.m. = 131,250 m.u.	131,250 x 1.01^{-4}= 126,129
The utility value		**456,440**

The recoverable value is max. (472,000, 456,440) = 472,000 m.u. The conclusion is that the equipment should be recognized at the level of the recoverable value, which means that the impairment loss is 588,000- 456,440=131,550 which is recognized in the profit and loss account and is entered as follows:

Expenses related to provisions for depreciation of assets	=	Provisions for the depreciation of equipments, means of transport, animals and plantations	131,550

4. Impairment of goodwill and the allocation of goodwill to the cash-generating units

Whenever there is a sign that the unit is likely to be impaired, a cash-generating unit to which goodwill was allocated will be tested annually for impairment. The annual test for impairment of a cash-generating unit to which goodwill was allocated can be performed at any moment, in the course of one year, on condition that this moment should be the same each year.

If the recoverable value of the unit exceeds its book value, the unit and the goodwill allocated to this unit are not deemed impaired. If the book value of the unit exceeds the recoverable value of this unit, the entity should recognize an impairment loss.

The assets of the corporations do not generate cash flows individually from other assets or asset groups and their book value is not entirely attributed to the reviewed cash-generating unit.

The following situations can occur:

❖ when part of the book value of an asset owned by the corporation can be allocated on a reasonable and consistent basis to the respective unit :

- the economic entity must compare the book value of the unit, including that part of the book value of the asset owned by the corporation to the unit, to its recoverable value. ;
- any impairment loss must be recognized when the recoverable value is lower than the book value;

❖ part of the book value of an asset owned by the corporation cannot be allocated on a reasonable and consistent basis to that unit:

- the company will compare the carrying amount of the unit, excluding the corporate asset, with its recoverable amount and recognize any impairment loss in compliance with the requirements under IAS 36;
- it will identify the smallest group of cash-generating units care include the cash-generating unit under review and to which a portion of the carrying amount of the corporate asset can be allocated on a reasonable and consistent basis;
- compare the carrying amount of that group of cash-generating units, including the portion of the carrying amount of the corporate asset allocated to that group of units, with the recoverable amount of that group of units;
- any impairment loss is to be recognized in compliance with the requirements of IAS 36.

In order to assess the goodwill associated to the transferred activity if the asset was allocated to a cash-generating unit and the company cedes an activity within the respective unit, we take into consideration the following explanation:

A company sells an activity constituting part of a cash-generating unit to which the goodwill was allocated, for 150 m.u. The goodwill allocated to that unit can be identified or associated to a group of assets at a lower lever than the one of that unit, only arbitrarily. The recoverable value of the part retained from the cash-generating unit is 450 m.u.

The conclusions are that:

- the goodwill associated to the ceded activity must be included in the book value of the activity when the income or the loss derived from that transfer are assessed;
- the value of the goodwill associated to the ceded activity is assessed by taking into account that this goodwill cannot be only be arbitrarily associated with a group of assets at a lower level than that unit**;**
- the goodwill associated to the ceded activity is assessed based on the relative values of the ceded activity and of the part retained from the cash-generating unit ;
- the obtained result is: 150 :(150+450)=25% of the goodwill allocated to the unit is included into the carrying value of the ceded activity.

5. Conclusions

In the past few years, on the background of certain financial scandals, the fair value model seems to be the most controversial one, as it is contested by a number of financial specialists.

Traditionally, the carrying value is the value entered in the moment of the transaction, i.e. the value entered on the date when an item or an account receivable is obtained, or when a debt is contracted. This is a verifiable value that is related to the asset and liability acquirement, which is the reason why, in accounting, the principle of the assessment based on the **historic cost** was established.

The assessment based on the historic cost is irrelevant when there is inflation, because it generates a distorted appearance of the reality: the assets are underestimated; moreover, the performance of the company is not evaluated correctly, because the income is underestimated, and the company pays inflation tax and distributes fictitious dividends.

For the companies in "the new economy" that invest a significant part of their resources in intangible assets, the traditional accounting model based on historic costs no longer reflects the reality.

If there is no market price for the element that must be evaluated at its fair value, a substitute should be found for the market value; unlike the market value, a piece of information that is found, its substitute is a value assessed function of our own professional judgement. In this circumstance, the world of accountants and financial analysts is divided between those who are pro, and those who are against the assessment at the fair value.

At the European level, the assessment at the fair value represents a rather controversial topic. For some, the fair value is a means of rendering objective accounting information. For others, the fair value just a method of assessing value that can lead to creating accounting behaviour.

The most fervent opponents to the assessment at the fair value are the insurance and banking specialists. Their worst fears are related to the adjustments generated by diminishing values, of the assets as compared to the market value, given the fact that their solvency and continuity are crucial for their depositors and insurance holders. World Bank auditors, influential bankers, members of the Basel Committee on Banking Supervision consider that the fair value evaluation is not adequate to the banking accounting of insurance companies. The following question arises: "what will be the significance attributed by the bank auditors to their capital basis evaluated at the fair value as compared to the own regulated funds?"[21] The capital base of banks has a broader meaning than the regular capital base, since it also includes the reserves drawn for expenses, such as reserves for credit risks. In this case, the market may mistake the increase in the fair value of the capital base for an increase in risks, thus anticipating a crisis. On the other hand, bank auditors may misinterpret a decrease in the fair value of the capital base and take corrective steps that may disturb the market.

Fair value accounting cannot be adjusted to a vast number of capital transactions, especially to the European ones, for which the main priority, in what credits are concerned, is constituted by fixed-interest rate loans.[22]The fair value evaluation in insurances is still far from offering the necessary guarantees in what the reliability and applicability on various markets are concerned, if we take into consideration that there is the risk that it may induce extreme volatility in the obtained results, which is a situation that might cause panic among insurance holders.[23]

Some specialists claim that the evaluation of the balance using the fair value is adequate only for the items that are to be sold, while the others, that are to be retained should be evaluated at their historic cost.[24]

It is difficult to give a definite answer to the question whether the balance at the historic will be replaced by the balance at the market price.

[21] V Oung , Cosidérations prudentielles sur la comptabilisation en »juste valeur » pour les établissements de crédit, « Bulletin de la Banque de France », no. 95/November 2001

[22] O. Pastré, M Vigier, *Le capitalisme déboussolé. Après Enron et Vivendi : soixante réformes pour un nouveau gouvernement d` entreprise, Editions La Découverte, 2003*

[23] F. LUSTMAN, Normalisation comptable pour les assurances et les banques : vers des normes ou des dogmes ?, Revue française de comptabilité, no. 440/ January 2002

[24] IAS 39 « Financial Instruments: Recognition and Measurement » recommends the fair value accounting for all the negotiable assets and liabilities; the other elements are not negotiable (for example: the loan portfolio and bank deposits) are entered at their historic costs.

The research team lead by professors Jean-François, Casta and Bernard Colasse summarize, in their work: "Juste valeur**.** Enjeux techniques et politiques" *("Fair Value, Technical and Political Stakes")* the technical and theoretical advantages and disadvantages of the fair value that do not allow for a confirmation of its superiority as compared to the traditional approach of the evaluation. Function of their predefined information needs, actual users can choose between the two evaluation models.

The consolidated accounts may be drawn up based mainly on the fair value, because they are almost exclusively used by shareholders and managers. At the level of individual companies, the historic cost will continue to exist, taking into account that drawing up two individual sets of accounts, one using the historic costs and the other using the market value, is not justified, from the point of view the cost-benefit ratio, in relation to obtaining the accounting information.

For the immediate time horizon, the accounting model of a company will be based on a hybrid evaluation (made of the historic cost and the market value), at least for practical reasons.

References

1. Andriessen D. (2004), *Making sense of Intellectual Capital – Designing a method for the valuation of intangibles,* Elsevier Butterworth-Heinemann, MA, USA.
2. Andriessen D., Tissen R., (2000), *Weightless wealth: find your real value in a future of intangibles assets*, Financial Times Prentice Hall, London.
3. Lev B. (2001), *Intangibles*. Brookings Institution Press, Washington, D.C.
4. Malciu L., Feleagă N., (2004), *Recunoaştere, evaluare şi estimare în contabilitatea internațională*, Publishing House CECCAR, Bucureşti
5 Malciu L., Feleagă N., (2004), *Provocările contabilității internaționale la cumpăna dintre milenii.Modele de evaluare şi Investiții imateriale*, Economic Publishing House
6. Malciu L., Feleagă N., (2004*), Reformă după reformă: Contabilitatea din România în fața unei noi provocări*, Economic Publishing House
7. Malciu L., Feleagă N., (2005*),Contabilitate financiară,o abordare europeană şi internațională,* Infomega Publishing House

The effects of the atmospheric pollution upon the green spaces and the vegetation of Piteşti municipality

University Lecturer PhD Florentina MIU
University of Piteşti
miu_florentina@yahoo.com

Abstract
The pollution of the environment, respectively of the air, water, and soil, no matter the source, is found after certain periods in all the links of the ecosystems, of the most important being the agricultural ecosystems. The effectuated researches have revealed that the effect of the polluters on the plants is manifested very different, and the external symptoms are always preceded and even accompanied by physiological and biochemical disorders regarding the entire plant.
The main polluters that may affect the vegetation within the municipality of Pitesti and surroundings are: sulphuric acids, NOx, HCl, CO, CO2, NH3, formic aldehyde, H2S and phenols, etc, as results from the effectuated analyses.
The sulphuric oxides may affect the vegetation both by air part of the plants as well as by increasing the soil's acidity, so by double effect. According to the SO2 quantity to which the plant is exposed in the time unit, within its tissue take place various biochemical and physical-chemical effects that lead to the degradation of the chlorophyll, reduction of the photosynthesis, increase of respiration, changes of the metabolism of proteins, water and lipids balance as well as in the enzymatic activity. The trees from the streets' alignments with long life cycle suffer extremely because of long exposure to SO2 as the subtle effects accumulate during the years and produce general harmful effects, more powerful as there are other toxic composites for plants such as NOx, O3 and acid rains. Because of the combination SO2 with NO2 there were distinguished harmful effects, reflected firstly by the reduction of plant growth. The synergist effects of this combination appear on long term exposures to concentrations near the two gases.
The photochemical oxidants and especially the ozone produce metabolic damages to leaves by affecting the integrity of the membranes and of the metabolic processes (photosynthesis). The negative consequences of the ozone upon the vegetation are found in the turning yellow of the leaves, necrosis, defoliation, and premature aging. Parallel to the visible effects there are also morphological, chronic and subtle degradation effects of the physiological effects such as: photosynthesis and the transforming of the photosynthesis elements that lead to the decrease of the vitality of the leaves and of the roots. [25]

Keywords: effects, formic aldehyde, phenols, acid rains, photochemical oxidants, toxic phenomena, material referring to trees and flowers, street alignments.

1. Vegetative and phenologic development of agricultural cultures from the influence area of the municipality of Piteşti

The studies effectuated during the period 2006-2007 on the vegetation around the city and of the street alignments of Piteşti Municipality, were of great utility due to the monitoring of all the segments in the environments, seeing not only the high level of noxa agents but also their consequences. At the same time we have followed the evolution of plants in the warm period of the year when the biological balances are very fragile, as a consequence of the multiple modifications in the vegetation.

The used database, as well as the soil and plants analyses, was executed according to the valid standards by the specialists from SCCPT Albota (the Research Station for Cereals and Technical Plants – Albota)

Thus, during the period May 2006 – September 2007 there took place monthly trips of a large number of specialists, at which I have participated, in 5 localities in the influence area of

[25] Bran, F., Nedelcu V., "Poluarea, protecţia şi legislaţia de mediu", Academia de Studii Economice, Bucureşti, 1996, p.28;

the plant, as well as on the street alignment of Pitesti municipality. At the first displacements the municipalities of the localities under observation were informed, by written notifications, about the objectives of the prosecuted researches, with the petition of signalling the apparition of toxic phenomena for the plants at agricultural cultures, regarding the edification on their nature, both on the field and in the laboratory.

The displacements were always effectuated during the first days of the month following the analysed one, in order to cover the evolution of the environment through the entire month.[26]

The soil and plant chemical analyses, executed according to the valid standards, as well as the current practiced methodology practiced with the network of the Academy for Agricultural and Sylvic Sciences Bucharest, were realised at SCCPT Albota and have been concerned with making obvious the nutrition condition, the eventual nutritious unbalances and their causes, in order to specify whether the appeared phenomena are of toxicity and are due to the industrial processing of petroleum by the plant.

According to the nature and concentration of noxa agents, the action upon plants is manifested either on the contact parts, or producing lesions inside the parenchimatic tissues, case in which it affects the structural integration and also the essence of the physiological processes.[27]

The sensibility degree of plants to pollution is very different from species to species, from plant to plant within the same species, as well as according the various organs of the same plant and the development stage in which the organs and plants are.

All these aspects, starting from the respiration and transpiration process, up to the sensibility of plants to specific noxa agents, are related to genetics, time evolution and phase evolution of the plants in each species.

Plants' resistance to polluters is given by the favourable environment conditions, by a balanced nutritive regime, as well as optimal pedological and hydrological conditions.

In this context, the vegetative and phenologic development study of plants cultivated in the influence area of the activity of industrial processing of petroleum developed by the plant, as component part of the environment, has appeared as an objective necessity.

For this purpose there have been effectuated various field displacements, displacements that have coincided with the main phases of vegetation of the plants, collecting information from each observance point, on a diversity of cultivated species as large as possible, species with different sensibility to the action of the polluter factors and especially in critical phases of the vegetative evolution.

Within the experiences we have effectuated studies and observations, soil and plant analyses that have permitted a correct interpretation of all phenomena that have appeared in the growth and development of cultivated species of plants.

The displacements and the field conclusions have been effectuated on each observation area on the same date of the month, except the days when the meteorological conditions have been unfavourable. In these cases the displacement was done the immediate day that has permitted it. These calendar days were the first 5 days of each month in which conclusions were made and information was collected regarding the evolution of the plants during the previous month.

Thus at Albota the displacement was realised on the 1st of each month starting with June and ending with October, at Bradu the displacement was made on the 2nd of each month, at Călineşti on the 3rd of each month, at Cătească on the 4th, and at Oarja on the 5th of each month.

The team of specialists being numerous and complex enough, the observations and conclusions have concerned a complete research on the evolution of plants and cultures in general. Part of these researches has been concerned with the pedogenetical qualities of the soil

[26] Bran, F., „Ecologie generală", Edit. Enciclopedică, Bucureşti, 1995, p.28-29;
[27] Miu Florentina, „Clima şi poluarea aerului în municipiul Piteşti", Editura Universităţii din Piteşti 2006, p. 303;

and the influence of the various types of soil, fertilizers and crop rotations, upon the various cultures and their production. Another part of the researches has followed the influence of the density, of the seeding periods, of herbicides and phitosanitary treatments on different kinds and species of plants. Together with these directions, which have been strictly in the area of activity of SCCPT Albota, a special attention was given to the influence of atmosphere polluting on plants and cultures in general.[28]

From the start we have to stipulate that the observations and conclusions have been effectuated both in experimental fields of SCCPT – Albota, situated in the area of Albota locality, as well as on some parcels that belong to private persons of the five localities.

It is obvious that for the present work the interest is represented by the effects of the air pollution upon the growth and evolution of plants.

We cannot say the same about the corn, wheat and sunflower cultures from the personal, private parcels. Their vegetation condition was clearly inferior, first of all, due to their incapacity of applying the agricultural technologies that lead to a decrease of the resistance of these plants and the action of polluter agents. There was observed that especially the sun flower culture was highly affected, as due to these polluting agents parts of the leaves, and in some cases, the entire leaves, were attacked (necrosis) which lead to a reduction of the growth.

A larger influence of the polluter agents was noticed on the vegetable cultures in the peasants' gardens. Although during the first part of the year these had a normal evolution, starting with July, especially the tomatoes, eggplants, pepper and bean cultures were affected, especially after the rains during the period 7-10 July 2006. It was concluded that the rains have stimulated these polluters (especially HCl, SO2, SO3) transforming into acid rains that have attacked the plants, especially the leaves, leading to their necrosis. Such effect was also noticed on the grape vine where the grapes were also affected.

This effect was noticed not only by me but also by the villagers. These effects were also noticed on the trees in Pitesti, the lime trees being the most affected, in the sense of their leaves dying on the course of July 2006. The trees from the Prundu area and those along the Fratii Golesti street and the Republicii Boulevard on the South Railway station portion and the BCR – public finances area have suffered the most in this sense.

The observations made in 2006 and 2007 and the conclusions drawn from these are similar to the ones in 2005.

What interests us regarding the agricultural cultures is to obtain productions as great as possible on each hectare, and in order to obtain this objective there are many factors involved, amongst these the pollution of the air. It was noticed, on the experimental parcels, that if all the stages of the technological process are respected the productions can be larger, and the influence of the pollution can be diminished (inclusively by creating and using resistant species). But, if the stages of the technological process are not respected then the pollution, even if more reduced, has a greater influence on the reduction of the production. Here we encounter the reduced resistance of the plants in front of the action of the polluting factors in the conditions in which the plants already suffer because of the inappropriate application of the agricultural technology.[29]

In these conditions the clearest and strongest effects were those of the present polluters (especially SO2 and HCl which was present in the atmosphere in the highest concentration) on the cultures of the individual agricultural owners. These do not have the economical and financial power necessary in order to make all the agricultural works according to the according to the scientific recommendations and modern technologies.

During these years the effects of the pollution cumulated to those of the drought lead, in some places and especially in the later seeded sun flower, corn and wheat cultures, and also the in vegetables ones to their calamity in various proportions (from 10% up to 60-70%).

[28] Gâşteşcu, P., „Ecologia aşezărilor umane", Edit. Univ. Bucureşti, 1998, p. 96;
[29] Miu Florentina, „Clima şi poluarea aerului în municipiul Piteşti", Editura Universităţii din Piteşti 2006, p. 286;

In the year 2006, due to a revival at SC ARPECHIM SA there was recorded a higher presence of some polluting agents (SO2, HCl, NO2) in the atmosphere of its surrounding areas.

This time, there were noticed some traces of toxicity to plants also on some cultures of the experimental parcels of SCCTP Albota. Thus in the corn, bean and sunflower fields there was noticed that the leaves had turned yellow and then died, as well as a degradation of the colour of the unaffected ones which indicates a reduction of the chlorophyll and implicitly the photosynthesis process. As a consequence there were noticed delays in the process of growth concerning the stature and fruits (the corns, sunflower capitula and bean husks were ones of little dimensions.)

This effect was more visible on the lands of the individual producers, their production being very diminished. Otherwise, some of them conceived their conviction and dissatisfaction regarding this situation as it is caused by the activity of S.C. ARPECHIM S.A. whose evacuated gases damage the cultures.

2. The chemical composition of the plants cultivated in the influence area of S.C. ARPECHIM S.A. Piteşti

The normal domain of variation for the total concentrations of nutritive elements from plants is given in table no. 1 below.

Table no. 1
The normal domain of concentration in nutritive elements of some cultivated plants, in the vegetation stage

Ref no	Crop	Vegetation stage	Analyzed organ	% from the useful substance					
				N	P	K^+	Ca^{2+}	Cl'	$-SO_4^{2-}$
1.	Wheat	florescence	aerial p.	1.4-2.4	0.22-0.25	1.1-2.6	0.35-0.85	0.27-0.4	0.27-0.37
2.	Oat	florescence	aerial p.	2.5-3.5	0.25-0.4	1.8-2.9	0.5-1	0.2-0.4	0.4-0.5
3.	Lucerne	florescence	aerial p.	3.5-5.5	0.36-0.7	2-3.5	1.7-2.5	0.2-0.85	0.2-0.4
4.	Lucerne	2^{nd} cutting	aerial p.	3-5	0.25-0.5	2-3	1.5-2.2	0.2-0.6	0.18-0.4

The chemical analyses made on plants mainly aimed the following nutrition elements: total nitrogen, phosphorus, calcium, sulphur, chlorine and humidity. The ions can become toxic for plants only when the normal variation limits are exceeded or when nutritive disorders occur, which in these situations seem to be a vicious practice of the strategies for agriculture on the acid soils.

The analytical data obtained and presented in table no. 2 prove the following aspects:

- plants benefited from a normal pluviometrical regime, the nutrition being achieved at optimum levels;
- almost normal contents of macro elements, following the normal pluviometrical regime;
- plants have a higher content of dry substance compared to the last years, following their normal development in optimum soil humidity conditions.

Table no. 2
The dynamics of the chemical composition of some cultivated plants harvested from the influence area in May 2006

	Cultivated plant	Development stage	Analyzed organ	S.U. g/pl.	% from useful substance					
					N_t	P	K	Ca	Cl	SO_4
Albota	Wheat	florescence	aerial part	1.41	1.41	0.3	2.05	0.6	0.41	0.19
Bradu	Oat	end of floresc.	aerial part	1.25	2.55	0.37	1.59	0.42	0.38	0.18
Oarja	Oat	end of floresc.	aerial part	1.16	1.29	0.35	1.5	0.39	0.43	0.16
Căteasca	Lucerne	2^{nd} cutting	aerial part	0.98	5.36	0.49	1.47	1.6	0.34	0.37
Călineşti	Grape vine	florescence	Leaf op. to cluster	2.15	3.83	0.38	1.34	2.05	0.14	0.36

3. The influence of atmospheric pollution over the green spaces in Piteşti

Inside Piteşti, the air circulation within the layer in the immediate neighbourhood of the earth surface is influenced by the street alignment, the density, shape and form of buildings, as well as by the green space surfaces. It is advisable that green spaces occupy larger surfaces, and the forests to create a "ring" around the town, so that the air-change rate can always be done regardless of the wind direction.

For the town of Piteşti the real "green lung" is the Trivale forest with 450 ha in the built-up area. It is a woodland area pursuant to Decision no. 18/94 of the County Council of Argeş and a forest-park area pursuant to the forestry arrangement. The Trivale forest is situated in the northwestern part of the town, a favourable position for the western and northwestern winds.[30]

In the north and north-east there are smaller forest areas: the Valea Mare-Vineyard forest, the Enculeşti forert, the Ştefăneşti forest and the Făget forest. In all these forests there is a predominance of: durmast, beech, oak, and also sycamore, maple and elm.

This forest vegetation around Piteşti has an influence on the freshening process of the atmosphere by retaining the suspensions and even some gases.

In Piteşti, the total surface of green spaces is 267 ha, from which:

- parks, gardens, green spaces at budgetary institutions: 62.21 ha;
- street green spaces: 96.37
- green spaces in districts: 105.27 ha.

The surface of these green spaces related to the total surface of the locality is 6.5%, and the surface of those spaces per inhabitant is 14m^2/inhabitant.

Among the most resistant forest species to the action of sulphur and phosphorous in the forests around Piteşti, there are: the species of Thuya, the beech, the field maple, the honeysuckle, the field elm etc.

From the research made until now, it was established that the pollutant powders are retained by the forest as a result of the modification of air stream speed and direction, which allows the sedimentation of a fragment from the particles, only the fine ones succeeding in passing over the obstacles created by the forest.[31]

The forest also contributes to attenuation of the phonic pollution, having the role of acoustic screen, due to the developed surface of leaves absorbing the sound vibrations. The noise diminution capacity of the forest vegetation is different according to the species. Thus, the trees with big and thick leaves or with thick leafage or those remaining green during winter (the coniferous) are the most indicated for creating soundproof curtains. Thus, the maximum effects can be reached for the forest plantations or the 20-30 m width shrub plantations.

The green spaces from the street alignments have a particular role within Piteşti by the protection they offer to the pedestrians, and also to the near-by inhabitants against sunstroke, dust, wind, noise etc.

Considering the esthetical role of the tree plantations on the street alignments, they should have a wide floristic diversity. From the research made, we can see there are a few favourite species for the alignment plantations, as follows: linden, chestnut tree, ash tree, sycamore on the older streets: Calea Bucureşti, Bd. Republicii, and American durmast on the newer streets (Bd. Petrochimiştilor, Fraţii Goleşti) etc.

The dendrological floristic material used was selected according to the resistance criteria to the urban climate conditions and to the pollution sources. In the urban area, the dendrological

[30] Bran, F., Nedelcu V., "Poluarea, protecţia şi legislaţia de mediu", Academia de Studii Economice, Bucureşti, 1996, p. 64 - 65;

[31] Miu Florentina, „Clima şi poluarea aerului în municipiul Piteşti", Editura Universităţii din Piteşti 2006, p. 298 - 299;

floristic material has to bear the synergic effect of the substratum – exhaust gas – human aggression correlation. For the mixture of the street alignment plantations, one should know the degree of shadowing the street, especially during the vegetation season and, in this case, the species of shadow, semi shadow and light are selected:

- the species of light seen in the street alignment of Piteşti are: the poplar, the acacia, the birch etc., with a thin leafage which disappear easily (they perish exposed to powerful shadowing);
- the species of shadow with a thicker and compact leafage (fir tree, beech tree, ash tree, elm etc.) because they do not perish so easily, they are much better species for the urban climate;
- the species of semi shadow which are formed in the mixtures from the street alignment: linden tree, chestnut tree, hornbeam, fieldmaple etc.

The street alignment plantations are extremely important in decreasing the intensity of diffused and solar caloric radiations. Thus, there is a difference of 0.81 cal/cm^2 for the direct solar radiation and of 0.64 cal/cm^2 for the diffused radiation inside the alignments, compared to the one on the street completely devoid of street alignment plantations.[32]
The street alignment vegetation is very important in the purification of the vehicle exhaust emissions. For instance, a 6 m width strip of shrubs situated at 10 m from the axis of the road determines a diminution of the lead content up to 1/10 from the initial concentration.

Bibliography

1) Bran, F. „Ecologie generală” (General Ecology), Edit. Enciclopedică română, Bucureşti, 1995;
2) Gâştescu, P „Ecologia aşezărilor umane” (The ecology of the habitation), Edit. Univ. Bucureşti, 1998;
3) Miu Florentina „Clima şi poluarea aerului în municipiul Piteşti ″ (Climate and air pollution in the Pitesti Municipality), Editura Universităţii din Piteşti 2006;
4) Nevers Noel. DE., „Air Pollution Control Engineering”, McGraW- Hill International Editions: Civil Engineering Series 1996.

[32] Gâşteşcu, P., „Ecologia aşezărilor umane”, Edit. Univ. Bucureşti, 1998, p. 99;

Psychosocial specific in the interaction manager-management team members

University Lecturer PhD Emilia POPESCU
University Professor PhD Marian POPESCU
University of Pitesti
emilia_popescu@yahoo.com

Abstract
Interaction manager - the team management is closely related to the psychology of organizing activities of the group. We envisage a series of psychological processes such as, for example, the power, authority, suggestion, imitation, influence, popularity, prestige. In the managerial team the team members interaction is done at two distinct levels: interaction between the manager - team members and the interaction between the member - the team management members, each having a series of psychological features in the concrete functional plan.
Integration and training of the managerial team as a group of participatory management of the company heavily depend on the balance between manager and team members.

1. Introduction

In the conduct of the managerial team activity an important role falls on the manager. Interaction manager - the team management is closely related to the psychology of organizing activities of the group. We envisage a series of psychological processes such as, for example, the power, authority, suggestion, imitation, influence, popularity, prestige.
In the managerial team *the team members interaction* is done at *two distinct levels*:

- interaction between the manager - team members
- interaction between the member - the management team members

each having a series of psychological features in the concrete functional plan.

At the first level, the manager is the one who affects profoundly or superficially the managerial team members behavior, the reverse effect being less present. The influence of the manager to the managerial team is explicit, direct; the influence of the managerial team members to the manager is implicit, somehow mediated. On the plan of interaction between members of managerial team, influences have a less decisive character, being realized in all respects and in all directions, including both quantitative and qualitative aspects more varied and multiple.

Interaction manager - the managerial team members is a certain ***system of functions aiming the behavior modification***. It occurs most often in the form of interpersonal relations, namely of some relations that meet and work between two or more people, relations that have a psychological nature, are aware and direct. The interaction we talk about represents the essential means of livelihood of the managerial team.

Interaction manager – the managerial team members is not just sitting in meetings, but also ***working personal contacts***. For manager such contacts can be an important source of information on the actual situation of an enterprise and an opportunity to operatively resolve some issues that arise in certain places.

In the process managerial team members manage to convince each other, to influence each other, opinions, to give advice and there are some contradictions. We can say that they begin to exert *a mutual influence* in behavior, attitude, in the analysis and approach to vital issues of the company. Social contacts become the basis of a new element in the process of forming the managerial team cohesion, which is already a factor for the exercise of mutual influence between members of the team, so occurring the mutual interaction.

2. The balance between manager and team members

Managerial psychology put in place and highlights the place and role of balance between manager and managerial team members in the interaction manager - the members of the corresponding group.

Integration and training of the managerial team as a group of participatory management of the company heavily depend on the balance between manager and team members. In the research of this balance will be considered ***the main characteristics*** of such relationships and in this framework is necessary to insist not on the obligations of members of the managerial team, but on the duties and the initiative of the manager in creating the respective balance.

Among these, the most important are:

- manager should respect and show a careful attitude towards the views and suggestions of members of managerial team. He has the right and duty to participate actively in the formation of these views. To create an atmosphere that will facilitate members' understanding of body work team managerial goals and methods to achieve and to ensure a total consistency between personal beliefs and the line promoted by the corresponding group. Such an atmosphere should not lead to the offence of the convictions of managerial team members.;
- in the process of mutual adaptation, it should not reach a situation in which the manager is in opposition with the entire managerial team or most of them;
- manager is required to regularly inform the managerial team of the main tasks, so that the respective group understands this line and assimilates it;
- manager is required to show care towards how the managerial team members discharge the duties of service and their personal problems;
- has to strive to create an atmosphere of friendship and mutual trust between manager and managerial team members and between all members of the group.

Our research shows that the balance between manager and the managerial team members is one of the most important areas for creating a state of satisfaction - dissatisfaction. Polar relationship manager - managerial team members is not uniform in both directions, in relation to the formation of satisfaction. For the members of her managerial team it is a much more powerful source of satisfaction - dissatisfaction than for the manager.

The balance between manager and managerial team members raised some managerial problems with psychological implications. In the managerial process, the managerial team members can manifest tendency to impose partial views, and tend to increase the degree of influence over others. They should therefore be moderated, on the one hand by obtaining a point of view of discussed issues, on the other hand, by limiting their role within the team, to exercise their rights without infringing on other members.

The balance between manager and the managerial team members is ***a fundamental relationship***, a bilateral alive relationship. In this process between the members of the respective group there are born different relationships and wrapping, appear elements of social psychology, managerial team acquires a specific feature that the manager has an obligation to know at all times to influence and use it in order to achieve the major objectives arising for the company the each stage.

3. Conclusions

Multitude of relationships that are established in the managerial team concerns, on the one hand, the functional relationships seen in relation to the task nature to participate in managerial enterprise, and on the other hand the activity in managerial team has emotional and affective emotional, moments of tension and conflict. From here the need for the manager to know emotional features of the members of the team and on this way it can take effective action to mobilize resources of managerial team members.

In the management of the company the emotional states of satisfaction, happiness etc. - facilitate participation in management, while states of fatigue - fear, anger, sadness etc. - hinder participation. Therefore, both in meetings and individual meetings the manager should avoid insulting words or phrases that can lead to misinterpretation and should create to the managerial team members conditions to feel free to show their abilities, skills and individual peculiarities.

Manager is intended ***to discover the personality of each member*** of the body, boosting his qualities and skills, the guide to their fulfillment.

References

1. Didier Cazal, Jean Marie Peretti, **The Europe of Human Resources,** Paris, Liaisons, 1992
2. Robert T. Moran, Dominique Xardel, **Beyond Crop**, Paris, Inter Editions, 1994
3. Petrescu, **Human Resource Management,** Ed Lux Libris, Brasov, 1995
4. R. McDermoff, R. Mikulak, M. Beauregard**, Develope Initiative and Creativity of Staff,** Dunod, Paris, 1996
5. P. Hermel, **European and International Management,** Paris, Economica
6. W. Pride, R. Hughes, J. Kapo, **Business,** 3rd Edition, Boston, 1991

Multimedia system for interactive visual recognition of computer-generated objects

University Lecturer PhD Florentina ENESCU
University Professor PhD Mariana JURIAN
University of Pitesti
enescu_flor@yahoo.com

Abstract:
In this paper we present a project developed on the Windows platform, integrated into the local network(LAN) and implemented on a PDA (Personal Digital Assistant) and a portable computer configured as a mobile customer workstation in a wireless network (NFO or both Wimax), both with installed web cams .

Keywords*: Digitized multimedia, feature detection, relevance judgements, multimedia database, query processing, content – based retrieval, data mining, image indexing and retrieval, metadata, similarity, image clustering, electronic publishing.*

1. Introduction

The difference between this system and the classical frequent-used systems is the interaction with the operator based on a real model. The result of an application is presented: the reshaping and retrieval of the images from a database, the advantages of the architecture of some recognition systems are commented. The systems of visual automatic recognition rarely obtain 100% correct assortment on family of interest objects. Most of them permit the interaction with user in the beginning, localized and declared, not acceptable in scientific articles. Delivering the ways of interaction with the process unit, this is efficient from the viewpoint of the time consumed. Leaving the operator completely check of the process of analysis is much more than if we seek the answers to general questions regarding the computer. The mobile recognition systems offer, obviously, the advantages in the recognition of objects far from his position (like flowers, other images). The first advantage of the method presented consists in the fact that it permits to achieve image definition of a more complex object. Then, the analysis may be based on some images and the class that obtains the greatest probability is accepted. Methods the sophisticated processing can be developed for the detection of relevant information from images, features, or the level of classification.

2. The method of thing

As in all analysers, a set of images with reference labels, split in the many classes, are stored in the database. Automatically, the algorithms segment each unknown image, build a visible model, and draw upon the images of unknown object, a set of distinct pre-programmed features that can be compared with formal features, colour or texture extracted from the that images. Applicants are then classified automatically according to the similitude features, with that the unknown image.
If one dyne the candidates display is similar to the unknown image, the operator selects them simply by clicking on it, classifying in this unknown class. By that, the operator can adjust the visible model. The visible model guides the system in the extraction of the features. Every time the visible model is built, features are extracted and all candidates are automatically registered.

Sometimes the correct candidate isn't displayed until the adjustment of the visible model is done. In this case, the operator can explore the less significant candidates by clicking on the Next button. If we have multiple images available as reference for the class, the operator also can examine them. The methodology is represented in fig. 1.

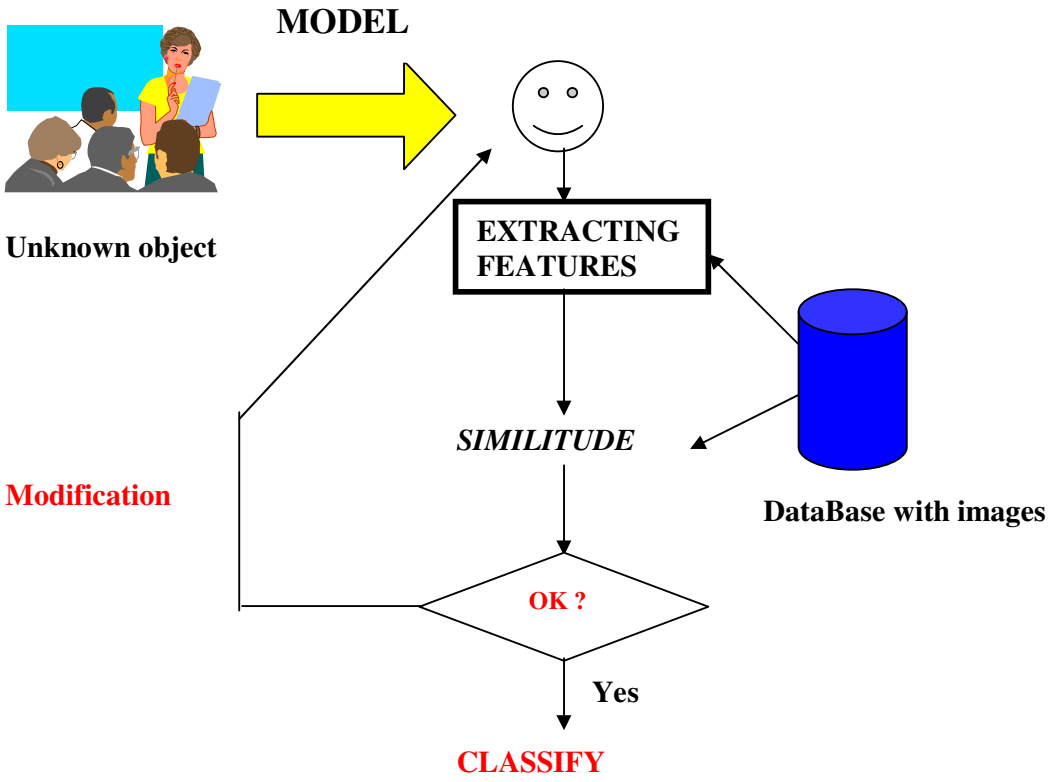


Fig. 1 Flowchat of the system. The human shares the by-path writed with red

When a new image of an unknown object is taken, the algorithmic part of the system classifies the candidates through feature comparison from the new images, using all other images as a reference. The candidates of the new set are displayed (fig. 2: a visible model built by the automaton from the unknown object).

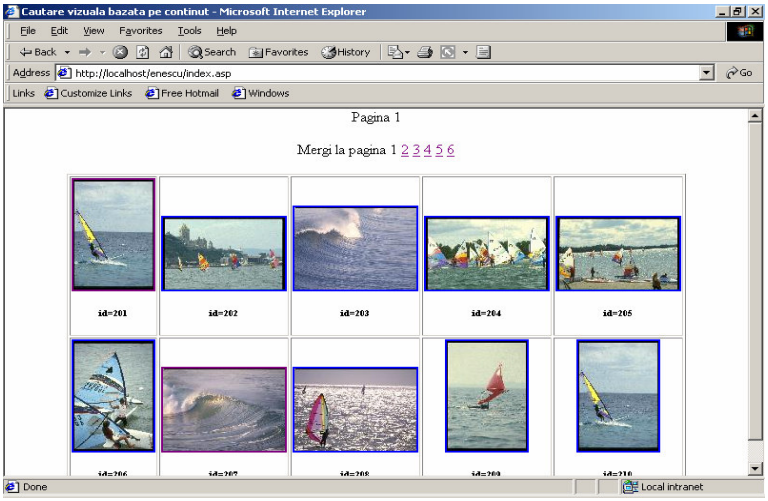


Fig 2- A model built from the unknown object

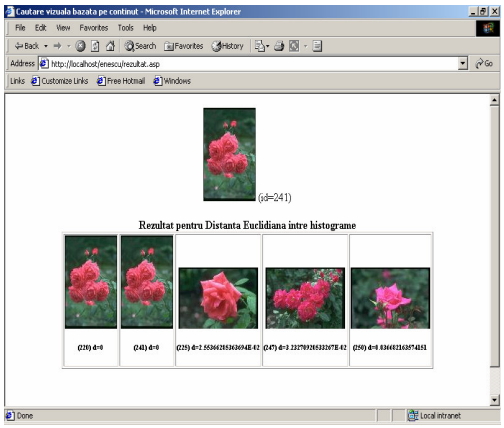


Fig. 3 The model of similitude from the database

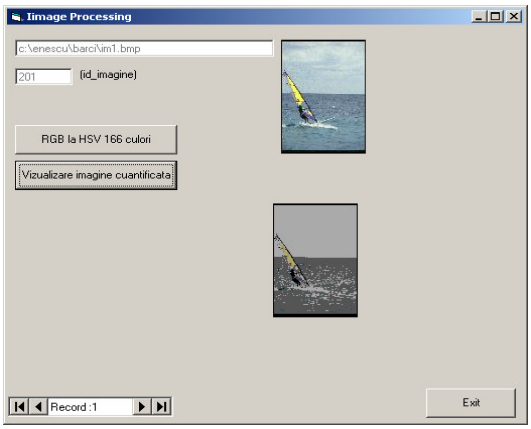


Fig. 4 The model forward and after the decrease

The visible models of the images look like linear simple drawings, in which the distinct points can be obtained and detected through analysis. The visible model integrates the curves of the Italian mathematician Guido Grandi (from the XVIII cent.). The operator classifies always the object by clicking the corresponding image.

The images from the database that have already been classified can be added to the reference set, with assigned labels from the operator. They are subsequently used to improve the building of the model required for the classification through approximation.

3. Mobile architectures

Although on the first portable system, visual interactive systems were implemented on a fixed workstation (200 Mhz, 64 MB RAM, serial ports and Compact Flash), the camera model was compact Sharp which permitted the direct capture of images. Images from another room can be also loaded through the PDA port; Sony was chosen because it offers ultimate performance, Linux support and utilities to interact with Java Personal, supplementary to the position of the

room. Java Personal has a greater flexibility than MIDP (Mobile Interface Device Profile) carries is launched on PDAs and mobile phones.
The mechanism of recognition is completely defined in abstract class, credit titles lacking some interfaces for data management. Because of the generic class, interaction handling of images, the GUI (Graphical User Interface) prompts the implementation of a few methods. IVS are based on the ability of human perception and grouping of similar regions, perceived features, outline of data and recognized significant differences. It uses the capacity of the computer memorized couples of images, quantifying the features and calculating the distance space of abstract features for some forms and colours. The architecture was specially developed for the recognition in the field of insular objects, where the available time for the classification of each image is comparable with the one for the acquisition of the image. A similar system was described in the present, where, installed in a room with WiFi IEEE 802. 11b enabled PDA Toshiba-e800. Were divided among PDAs and a laptop covering a zone of 100 m, around the host. The PDA transmits on the radio interface each image obtained recently to host. The host calculates the visible initial model, classifies the order candidates using his stored reference images, and they return the parameters of the model. And the numbers index of the candidates from the PDA. The PDA then displays the candidates of the tree from the database of the images of reference.

If the user adjusts the model (using his random registration), parameters of dodged-up model of the by-path transmitted to the host, a new model and a classification is a calculated and communicated to PDA. The file is kept on the PDA. With this system we did experiments in with flower images, from their natural landscapes and repeated some experiments from the database with other subjects. From research results that for recognition on the age with across 20 times quicker than the utilization of desktop because of the adjustment. Is recognized that it was easy at the thin border because some flowers of reference can be easy distinguished on little display of PDA. The calculus in net enforced with no significant delay with the exception of the arrival of each new image. The most important drawback of portable devices is that they can be easy operate to the daylight, because the display is near invisible, still more many, the colour depth and the resolution differs nice and long ago from a place to other.

4. Conclusion

The experiments demonstrate that an iterative classification in problems of multiple classes is much more than the automatic current classifications and much more than the human classification without algorithms. Of tacked sights current, the technology of memory and CPU is proper for the systems of tacked sights, portable computers, which cases can operate independently or in way customer host radio. The vast availability, you launch we apply the training, industrial check and medical diagnosis of visible symptoms.

Bibliography:

1. Enescu Florentina Magda , PhD Thesis, 2008
2. Ipate, F.E., " Dezvoltarea aplicațiilor de baze de date în Oracle 8 şi Forms 6 ", Editura BIC ALL, 2000
3. Michael Hernandez, "Proiectarea bazelor de date", Editura Teora, 2003
4. Jie Zou, Abhishek Gattani, George Nagz, *Rensselaer Polztechnic Institute*, Troy, NY
5. J. Zou, *Computer Assisted Visual Interactive Recognition: CAVIAR*, Rensselaer Polztechnic Institute PhD Thesis, May 2004

Employment of labour in models of economic growth

University Lecturer PhD Cristina BÂLDAN
PhD Student Victoria- Mihaela BRÎNZEA
Faculty of Economics, University of Pitesti
mihaelabranzea@yahoo.com

Abstract:
The economic growth resources represent the potential of useful mineral substances, of human potential (population of working age), of scientific research and the financial potential of the society at a certain time. Resources are becoming economic growth factors that are used in order to determine real possibilities of the society development. Economic growth expresses a complex process of evolution over a long period, which is manifested by an increase of the characteristic dimensions of a national economy. An economic growth supposes not only an increase of production, but also an upward and sustainable movement.

Keywords: *Economic Growth, economic factors, labour*

1. General considerations

Integration of labour within the economic model was developed, to a certain extent, by classical economists, who related it to the population as a prerequisite, but also as a restriction of economic developments. The first complex model of dynamic economic analysis is an extensive breeding scheme developed by Marx, in which extensive breeding problems of the workforce are covered under the double aspect, quantitatively and qualitatively. However, the use of large-scale modeling of economic growth is more recent.

In general, in terms of statistical-mathematical construction, models are distinguished in monofactorial (monosectorial), multisectorial and bisectorial ones.

In bifactorials models - preferred by the neoclassics, but also used by some neokeynesians - capital and labour inputs are treated as separate substitutable among themselves within certain limits. Both labour and capital are carriers and beneficiaries of technical progress.

Bisectorial and monosectorial models have been extended to the multisectorial-model and although the complex construction involves difficulties in solving, they are usually rated as more realistic.

Usually, all models are monosectorial based type factors, relying on the assumption that there is a relationship of dependency among the results (Q), the aggregated factors - labour (L), funds production (K), and in some cases, natural resources:

$$Q = f(L, K)$$

In the analysis based on the production, macroeconomic bifactorial based production (Q) is the result of two key factors - labour (L) and capital (K) - as factors of production. Since any relation to the production includes a specific definition of technical progress, the Econometric Model is a model reflecting growth determined by the type and pace of this factor.

Another feature of macroeconomic production function is that they assume as hypothesis the degree of utilization of labour, which in some cases is that of full employment.

Starting from the Cobb-Douglas classical production function, numerous models have been developed, including factor based models, in which employment can be a restriction or a result of economic growth.

In Harrod-Domar type monosectorial models, and others alike (Alezander, Smithies, Kaldor, Desenberry, Kohn, J. Robinson), employment is seen as a resource adapted to automatically use the full requirements of such assets.

Employment assumption is satisfied only in a particular case, respectively, when the demographic rate of growth, which determines the exogenous labour, is equal to the stock of capital rate of growth and the income increase.

Solow-type models are based on the assumption that growth rates are proportionally to the national income and total population. In this type of models, the influence of economic factors, income, the demographic growth and intermediate, over the employment, leads to the solution that the population increase rate is adjusted automatically, depending on the real salary.

It is considered a function of aggregate production, with two factors of production (technical capital K, and labour L), which yields marginal decrease of the factors of production, efficiency of scale which comply the Inada four conditions:

Y = F (K, L) - the production

Inada conditions:

$$\frac{\partial F}{\partial L} > 0; \partial^2 F / \partial K^2 < 0;$$

$$\frac{\partial F}{\partial K} > 0; \partial^2 F / \partial L^2 < 0;$$

$$F(\lambda K, \lambda L) = \lambda F(K, L), pentru \lambda > 0.$$

$$\lim_{K \to 0}(F_k) = \lim_{L \to 0}(F_L) = \infty$$

$$\lim_{K \to \infty}(F_k) = \lim_{L \to \infty}(F_L) = 0$$

The condition which yields a consistent scale involves a function of production (income) as follows:

$$Y / L = F (K / L, L / L)\ Y = LxF (K / L, 1) = Lxf (k)$$

Where:

k = K / L (capital stock per capita);

y = Y / L (production, income per capita).

The function of production will be: y = f (k)

The model takes into account a closed economy with a single sector, where output (Y) is homogeneous, it is intended for consumption (C) or investment (I) to create new units of technical capital (k) savings is equal to investment (I = S). If part of income comes from savings (s constant and positive), then 1 - s is the fraction that is consumed. The capital is subject to a constant and positive depreciation rate.

$$I=S= sxY = sxF (K, L);$$

$$\Delta K = investmens - depreciation = sxF(K, L) - \delta xK$$

(K means his K derived in relation to the time period t)

2. Population growth and the economic growth process

Assume that population and labour forces grow at the same rate constant n. To explain the status of stationary Solow model with population growth, we should analyze how the population growth affects the accumulation of capital. Investments increase the stock of capital and depreciation of investments falls. If the number of workers increases and K is constant, than the capital/ worker decreases.

$$\Delta k = i - (n + \delta) \times k$$

Thus, leading to increased investment k, while depreciation and population growth decline k. The term (+ n) × k represents the investment required to keep the stock of capital / worker constant. δ × k expresses the investment necessary to cover depreciation of capital, and n×k measured investment needed to equip new workers with capital.

$$k = s \times f(k) - (n + \delta) \times k$$

On a constant base, an increase of the population ($n_2 > n_1$) leads to the capital / worker reduction from k_1 * to k_2 *.

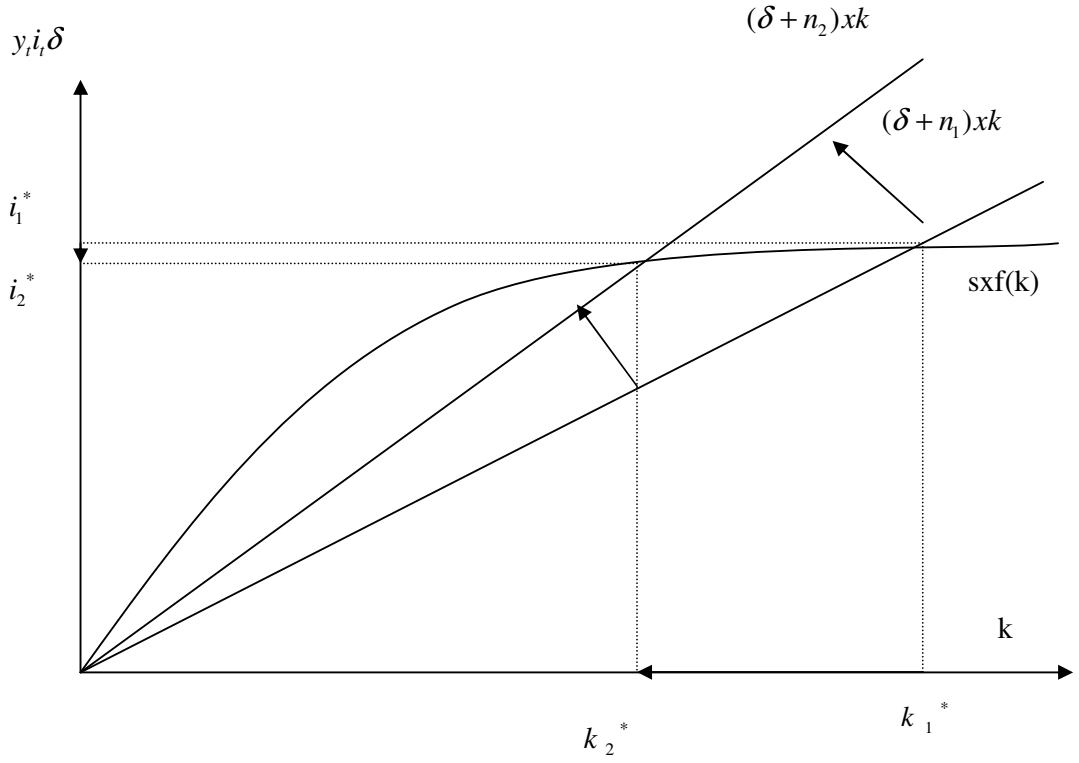


Figure no.1 Population growth in the Solow model

This situation explains why countries with a high population rate of growth had a lower level of capital / worker and therefore a lower income. That's why programs to combat poverty that the World Bank promoted in developing countries aim at reducing fertility by increasing education, methods of birth control, etc.

Given that the basic assumptions made in theoretical monosectorials models types mentioned, most multi-sector (Shinkai, von Neumann, Tinbergen etc.) present interest, especially for new methodological elements that make them and that the latest introduce the idea of stimulation of Economic development is regarded as an infinite time.

Finally, mention the contributions made by model-type input-output (Leontief, O. Lange, Almon, Cambridge model), which allow estimates of the structure necessary manpower.

In the former socialist countries, needs planning have resulted in the development of a variety of models, in which employment is usually regarded as a resource base in the effort to achieve economic goals. From our point of view, a place under the model developed by Michael Kalecki is to be mentioned.

The basic Kalecki equation that determines the dependency between the economic rate of growth and the national income and the factors taken into account in the model, are:

r = 1 / m * s / v-a + u, where:

m = coefficient of capital

i = cost of investment

v = national income

a = rate of depreciation

u = coefficient that reflects the increasing labour productivity by improving the organization of work, saving raw materials and materials, waste reduction etc.

Addressing the issue of national income growth acceleration, Kalecki presented the assumptions of a limitless reserve of labour, a situation corresponding to the period immediately following the shift to a developed capitalist economy, or of a limited reserve of labour, features a situation further. To reserve where labour is exhausted (full employment assumption), Kalecki proposes as a resource to accelerate the national income growth rate the increase of the capital or the reduction of the machinery operating time.

As it is known, a model may not include all the elements of the system that you are studying, or patterns of M. Kalecki, with a particular theory, so a wider applicability, and does not resolve the problem of employment in the sense that they materialize in the context of a complete economic system.

Tapping the problem of technical progress as an important factor in economic growth, M. Kalecki stresses the need to continue raising the quality of the newly built objectives, and particularly of their employment, the accumulation of material must be accompanied by a process of increasing the knowledge stock of the society.

In our country, in the context of concerns for the substantiation of theoretical ways and means of highly developing the national economy, labour issues were addressed in some models of lesser or greater extent, based only partially on the efficient use of this primary resource of the national economy.

Thus, on the basis of calculation relations established between labour with fixed endowment funds, the efficiency of funds (provided that this is the maximum) and personal nemesis, concludes that "the optimal level of employment is a problem in the economy, the existence of which must be taken into account in the analysis and forecasts of economic growth."

References

1. Barro, R.J., Sala-i-Martin, X., 1996, *The Classical Approach to Convergence Analysis*, The Economic Journal, vol. 106
2. http://ec.europa.eu/enterprise/regulation/goods/index_en.htm
3. Băcescu M., Băcescu, AC, 1993, *Macroeconomics*, Ed All, Bucharest
4. Kalecki, JM, 1972, *Essay in the Theory of Economic fluctuation*, Alen and Unwin, London.

Psychosocial orientation in planning the responsibilities

University Professor PhD Marian POPESCU
University Lecturer PhD Emilia POPESCU
University of Pitesti
emilia_popescu@yahoo.com

Abstract
The complexity of problems that are put before the managerial team makes that the rigorous division of tasks within the group have a specific purpose: to create conditions for every action to have a solid background and a better contoured efficiency.
In our point of view the responsibility of the managerial team represents a specific psychological phenomenon, which is expressed through the ability of each member, and the whole body to choose a particular line behavior, taking into account the social significance of his actions and the immediate and remote consequences together, the emotional experience of the state arising from the obligations assumed on this occasion. Psychological aspects of the responsibility of managerial team have more broadly sense, more comprehensive than legal.

1. Introduction

The complexity of problems that are put before the managerial team makes that the rigorous division of tasks within the group has a specific ***purpose***: to create conditions for every action to have a solid background and a better contoured efficiency. Superficial treatment of this matter may lead to unnecessary and excessive loading of the work team, the dispersion of insignificant and marginal efforts.

The manager must strive to achieve a balanced ***distribution of responsibilities*** between members of the managerial tea. In this process he has a duty to organize such activities that use that opportunity to promote personality and responsibility of each.

It is good that in planning responsibilities, the manager requires to the team members to express views on how they can contribute most effectively to achieve the objectives and tasks. In this way it monitors and, of course, can make a correlation with the tasks, qualities and interests of members. There will be also considered the difficulties that faced or might face team members.

In terms of responsibility the participatory management system complements its contents, giving new ***values***:

- managerial team receives the opportunity to focus on major problems and needs of the enterprise and to find more effective solutions to resolve them;
- materializes formal relations between managerial team members;
- develops some managerial skills to team members, giving them the possibility of participation in the process of decision-making;
- raises the level of conscientiousness of each member of the managerial team.

2. The manifestation of responsibility in the managerial team

In our point of view the responsibility of the managerial team represents ***a specific psychological phenomenon***, which is expressed through the ability of each member, and the whole body to choose a particular line behavior, taking into account the social significance of his actions and the immediate and remote consequences together, the emotional experience of the state arising from the obligations assumed on this occasion.

The complexity of human activities at factory level determined Jean Francois Hirsch (1969) to state that no operational research can be a universal remedy or a manual of magic recipes. Therefore the human factor and especially the managerial team responsibility is the most importance. In such conditions participatory management of the company becomes an act of collective appreciation, a value, an expression of attitudes.

Application of democratic principles in the management of industrial enterprises in the form of management teams does not exclude, but on the contrary, assumes the increase of individual responsibility. Democratic climate in the process of participatory management strengthens the responsibility for both the immediate and later effects. Developing democracy in the managerial team represents one side of the efficient management of the company and it is also a moral investment certifying and also stimulating the existence of an evolved responsibility, calling the new ethical life, new professional skills.

In the transition to a market economy the managerial team should be designed in such a way that the body should have a feeling of satisfaction and completion of work performed, which provides necessary motivational potential. The increase of resposibilities of managerial team members involves two elements:

- boldness, namely the inclusion in participatory management of more difficult tasks which requires a considerable intellectual effort;
- original managerial tasks, quality that allows the managerial team members to perceive the significance of work done and get the respect for people come into contact.

These elements are very relative, they take a range state to another depending on the personality of each and the conditions under which they operate to participate in the management company.

The study of forms of manifestation of responsibility in the managerial team gives us the opportunity to detach a series of concepts with a view to its characterization. Psychological support of the report between ***debt and aspiration*** to participatory management of the company determined that the degree of responsibility of managerial team members depends not so mechanically to the rules, how full their option to imply the staff at the management and the participation to the collective options.

Due to its importance and psychological effects of the problem of managerial team responsibility acquires a meaning mainly psychologically. And however, quite often in the analysis of the concept of responsibility, specialists in legal sciences neglect its psychological edge. In fact the study of relations and legal work confirms that legal responsibility is based on psychological components.

If it would not have such bases, legal responsibility could not exist as a sanction, which implies a negative reaction of staff and an inner unrest of the person concerned.

3. Conclusions

Psychological aspects of the responsibility of the managerial team have ***more broadly sense***, more comprehensive than legally. They have a proactive, preventive positive function. They appear to share a permanent action mechanism, which provides not only responsible fulfill for the participatory management but also the initiation and implementation of measures designed to prevent and avoid situations that could harm the company.

The degree of responsibility is a true barometer of the moral value of the individual members of the managerial team. Personality itself is a creative of new material and spiritual values and responsibility with her psychological and moral aspects - an inestimable force of creative and cohesive managerial team.

Responsibility as a personality trait and responsibility as personal relationship are the result of subjective transposition in consciousness of the member of the managerial team, of the system of objective group relations.

References

2. Bosch, M., **Employ People and Participation,** Encyclopedia of Management, Paris, 1992
3. Handy, C, Gow; Randlesome. C. Gordon, C, **Formation: Managers**, Ed. Eyrolles, Paris, 1990
4. Becker, G. S., **Human Behavior. An Economic Approach**, Ed ALL, Bucharest, 1994
   Lanciaux, C. C., **Strategies of the Rewards**, Ed E.S.F., 1990
5. Petrescu, **Human Resource Management,** Ed Lux Libris, Brasov, 1995
6. R. McDermoff, R. Mikulak, M. Beauregard**, Develope Initiative and Creativity of Staff,** Dunod, Paris, 1996
7. Samuelson P., Nordhaus W., **Economics**

Possibilities of stocks diminution and increase of their efficiency

Assistant professor PhD Student Diana Elena BRÎNZĂ
Faculty of Economic Sciences, University of Piteşti
diana_branza@yahoo.com

Abstract:
In terms of our country's passage to market economy and of autonomy increase of economical agents, a solid substantiation of raw materials and parts outfit is imposed from a quantitative, structural and qualitative point of view, depending on the volume and structure of the scheduled production, of particularities of production and supply process of each enterprise, as well as the increase of revaluation degree of raw materials, parts, fuels and energy used by commercial companies.

Keywords: *stocks, efficiency, minimization*

1. General considerations

The development in good conditions of production process and the efficiency increase of economical activity of enterprises requires the insurance of each economical entity with current capital, as well as its rational use.

The present methodology allows the contraction of current assets in two important categories depending on their nature:

- Material current assets;
- Monetary current assets;

Material current assets are known as **stocks.**

Due to competition conditions specific to market economy (except the monopoly situations), the producers don't have the possibility to operate neither on the prices of acquired production factors, nor on the sale prices of their own products. Also, in order to obtain a bigger profit, they try to reduce the production costs, fact that represents the safest way to increase the economical efficiency.

The minimization of production costs is extremely important considering that the production factors are limited and used up. Any economical agent disposes of certain financial resources that can be allocated to the production process. In this sense, he is concerned to obtain the best production and profit at a given production expense. Thereby, the same resources are used to satisfy different needs in the process.

The decisive role in minimizing costs is played by the increase of production factors efficiency used in terms of innovation and improvement of resources saving spirit. The factors consumption per product depends on the resources management, of their careful administration and the concern of each producer to reduce or avoid waste.

Among the action approaches in vue of production costs minimizing, we can also consider the **stocks reduction**.

2. Possibilities of stocks diminution

The main method to reduce stocks is **their rotation speed acceleration.**

The ways of rotation speed acceleration of current assets are varied, being specific to each phase of the production process: supply, production and sale.

The supply with raw materials and parts is influenced by the volume and diversity of material resources necessary to the development of an enterprise activity, by suppliers'territorial distribution, while the production process has a continuous character. Thus, the insurance of conformity between supply and production is accomplished through the constitution in the

enterprise of size stocks and variety determined at the level of processing capacity and market demand. Sometimes it is impossible et non-economical to supply with raw materials and parts at the moment when they are needed in production.

In some branches, the materials cannot be used in the immediate production process, without a previous conditioning. As a result, the economical entity should always be supplied with the necessary materials in full conformity with the production process requirements. On the other hand, the beneficiary unit can be located in other place than the unity from which it is supplied and in this case, it is impossible that the raw materials arrive in the enterprise exactly at the moment when it is necessary to be consumed in the production process.

During the supply phase, the main ways of rotation speed acceleration are:

- A rhythmic supply insurance with raw materials and parts by closing contracts with suppliers, in which firm clauses regarding the delivery terms should be foreseen;
- A permanent stock insurance of raw materials and parts, known as safety stock;

The safety stock includes in its composition the quantity of materials stored in the consumer's warehouse, being meant to insure the consumption continuity when the current stock is used up and its completion is delayed, as a result of delivery detuning from suppliers, transport difficulties or the rise of consumption rhythm over the estimated limits during the period of management. The insurance stock formation means an additional accumulation of material resources in stock and implicitly a higher immobilization of financial funds involved at their purchase- situation, which amplifies the negative economical phenomenon generally specific to storage.

The calculus formula of the safety stock is the following:

$$Scsg = Ta^* cz \text{ , where :}$$

Scsfg= safety stock;
Ta= time for a complete supply cycle;

- The raw materials and parts supply should be made from the nearest sources, with the lowest delivery expenses;
- The materials' losses diminution by improving the storage and keeping conditions of materials, the modernization of charge-discharge operations, a better qualification of the staff from stock rooms and warehouses, as well as the security insurance of material goods.

The stocks' size is imposed to be determined no more than is necessary, as a result of a thorough examination of activity volume, of specific consumptions, of supply and storage conditions, of financial implications generated by their constitution and maintenance. The dimensioning of production stocks at higher levels than the real needs of production determines the issue of redundant stocks (outsized stocks), which causes capital immobilizations (reserves) involved in the purchase of materials or in stored and not sold finished articles. The dimensioning at smaller levels than the real needs of the enterprise may put in danger the continuity of the production process and as a result it causes the productivity reduction.

All these issues impose analysis and economic accounting which determines the strategy and policy in the field of stocks formation from a stage to another, depending on the new conditions which appear on the material resources market, on the changes in the structure of demands for consumption or on their supply potential.

In most cases, the stocks formation doesn't add value to stored economic goods, moreover, the stockage generates some direct and indirect expenses as a result of the purchase, transport, storage and possible losses, due to raw materials and parts devaluation. The existence in the industrial enterprise of an optimum programme of production assures a minimum level of expenses for raw materials and parts storage and for possible modifications of production volume.

During the production phase, the main ways of rotation speed acceleration of current assets consist in the production time cycle reduction and costs diminution through:

- Products re-projection and assimilation of new products with reduced consumption and higher performance;
- Improvement of processes and technological methods;
  The improvement of processes and technological methods will have as an effect the production of finite articles in bigger quantities, either by using the same quantity of stocks (as in the previous period, before stocks improvement); or by using raw materials and parts in smaller quantities for the same quantity of finite articles also previously obtained.
- Appropriate production and work organization by using all production capacities, determination of manufacture rational flows, choice of performing technologies, rational use of time work;
- Reduction and even elimination of unexpected interruptions during the production process as a result of the lack of raw materials and parts, prolongation of some repairs execution or their improper execution;
- Rational organization of internal transport and of supply at work place;
- Products quality increase;

As regards the **third phase of production process „ the sale", the action possibilities in order to accelerate the speed rotation of current assets are:**

- Sales rhythm increase, through:
  - Conclusion of production delivery contracts with specified foreseen quantities, dimensions, quality and terms;
  - Transport mechanisation of finished articles and semi-manufactured goods from production departments to store rooms;
  - Effective and systematic pursuit of the way in which the clauses stipulated by contract are observed;
  - Collaboration with only the clients who showed seriousness;
- Rhythm cashing increase of delivered production through:
  - Company's orientation to the most profitable discount forms;
  - Pursuit of sums cashing in course of discount;
  - Application of economic and financial penalties in case of non-observance of clauses stipulated by contract;

Last but not least, the quality and the precision of bookkeeping information have also an impact on stocks. A very well structured and accomplished information system can certainly lead to stocks reduction. The precision of information refers to the exactness reflected in the activity developed in the unit and is determined by the assembly of characteristics used to represent the means.

The critical evaluation of information' precision can be made through the examination of the degree in which the information processes are reflected currently in all the headings' forms and in the way the accounting relations, inclusively the correlations between information are observed.

3. Possibilities of stocks efficiency increase

In order to appreciate the efficiency of using current assets, a series of indicators is used (also called synthetic indicators), among which:

- Materials consumption per a production of 1000 monetary units (manufactured, added value, turnover, net or gross profit etc);
- Production value at 1000 monetary units, consumption of raw materials, parts, fuels etc;
- Materials consumption per characteristic of product operation, for some products;
- Fuels consumption at 1000 monetary units incomes;
- Gross profit from activity at 1000 monetary units value of raw materials and parts, fuel etc;

a) Materials consumption per a production of 1000 monetary units, can be computed according to the following relations:

$$cm/1000 = \frac{Cm}{\Sigma q * p} * 1000$$

$$cm/1000 = \frac{\Sigma q * cm}{\Sigma q * p} * 1000$$

$$cm/1000 = \frac{\Sigma gi * cmi/1000}{100}, \text{ where:}$$

cm/1000= materials consumption per a production of 1000 m.u.;
Cm= total consumption of a certain group or of a range of raw materials and parts;
q= physical production on ranges obtained by using the analysed raw materials and parts;
p= revaluation price of obtained products;
cm= raw materials and parts consumption per unity of product;
gi= turnover structure per products;
cmi/1000= cost with raw materials and parts at a turnover of 1000 m.u. per unit of product;

b) Production value at 1000 monetary units, consumption of raw materials, parts, fuel etc, is an indicator which can be computed using the formula :

$$Q/100 = \frac{\Sigma q * p}{Cm * pa} 1000 \text{ , where}$$

Pa= supply price (of invoicing plus a part of transport expenses) per raw materials, parts unit etc.

c) The materials consumption per characteristic of product operation is used for some products. For example, at factories which have tyres manufacture as activity object, it is used the indicator „natural rubber consumption at 1000 km per tyre, which underlines how efficiently the natural rubber is used in different tyres manufacture technologies;

d) In case of economic services provider entities, the economic indicator, which reflects the efficiency of using current assets, is „ fuels consumption per 1000 m.u. incomes”(cb/1000), computed according to the following formula:

$$cb/1000 = \frac{Cb}{Q} * 1000 \text{, where}$$

Cb= fuel consumption;
Q= incomes obtained from the performance of some services;

e) Raw materials and parts, fuel etc;(pb/1000), it is an indicator which measures the efficiency of using current means and which can be computed according to the relation:

$$pb/1000 = \frac{Pb}{Cm * pa} 1000 \text{, where:}$$

Pb= gross profit obtained from the performance of some services;

Every enterprise follows the value increase of this indicator, which will lead at the same time to the increase of stocks efficiency.

With the help of these indicators, one can estimate that an efficiency increase of parts consumption and of their degree of revaluation takes place when the production dynamics of exercice or of turnover surpasses the dynamics of expenses or of total consumptions of materials (IQ > Icm).

References

1. Bărbăcioru V., Sandu M., Bălună R., Domnişoru S., Bănuţă M., " Financial Accountancy", Sitech, Craiova, 2007 ;
2. Băşanu Gh., Pricop M. , „Supply and Sale Management" , Economic Publishing House, 2001;
3. Cârstea GH., E Işfănescu A., „Practical Guide of Financial-Economic Analysis", Economic Tribune Publishing House, 2000;
4. Florea R., Cîrciumaru D., Bondoc D., „Financial-Economic Analysis", „Romanian Writing" Publishing House, 2008;
5. Işfănescu A., „Practical Guide of Financial-Economic Analysis", Economic Tribune Publishing House, 1999;
6. Işfănescu A., Robu V., Hristea A., Vasilescu C., „Financial-Economic Analysis", ASE. Publishing House, 2002;
7. Pană I. , „Financial-Economic Analysis", University of Piteşti Publishing House, 2003;

Comparative analysis of the Department of Human Resources in companies in the European Union

Assistant professor PhD Student Eliza ANTONIU
elizantoniu@yahoo.com

***Abstract**: The role of The Department of Human Resources (DHR) is to efficiently manage one of the most important resources of the organizations: employees. On its existence and good operating efficiency depends the entire organization and maintain its competitive advantage.*
***Keywords**: organization, department, human resources management, manager, structure, function.*

The efficiency of human resource management in an organization depends directly on how the organization department (functions) of human resources within it. The organizational structure of DHR is influenced by: *the scope of activity of the organization*, *the technology used*, *business size and geographic concentration*, *the external environment, policies and strategies promoted and life-cycle phases of the organization* or the time of its development. There is no standard structure of this department, this setting is based on the assessment of human resources necessary for the organization, according to the environment in which it activates, but also the importance of the organization attaches to human resources functions.

1. The European countries organizations

In European countries, the department of human resources exist at a threshold of 100 or 200 employees, depending on the issues more or less complex occurring in this area. In the case of which is in the range of 200-1000 employees, there is a service personnel held as in ***Figure no. 1***[33], in which the head of service and assumes performance of management tasks, such as specific training and relationships with the social partners.

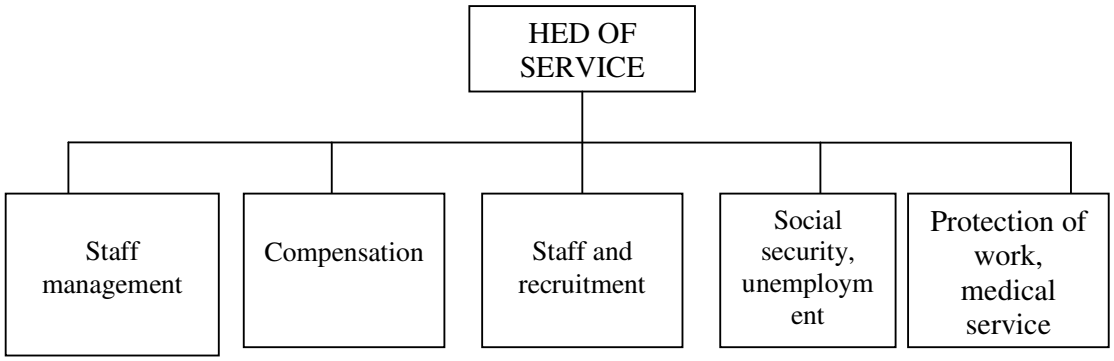


Fig.no.1: Compartment of personnel's structure in businesses with 200-1000 employees

In big companies, which have subsidiaries and branches located in remote countries and / or different continents, organized a division of human resources in the headquarters and decentralized departments at other locations (***Figure no. 2***[34]). If the company is focused on a small space, human resources function is managed through centralized directions.

[33] C-tin Rosca, D. Rosca: "Human resources: management, strategy, policy," Universitaria Publishing House Craiova, 2005, pg. 63;
[34] Monica Roman: „Human resources in Romania. Evaluation and efficiency"., A.S.E. Publishing House, 2005;

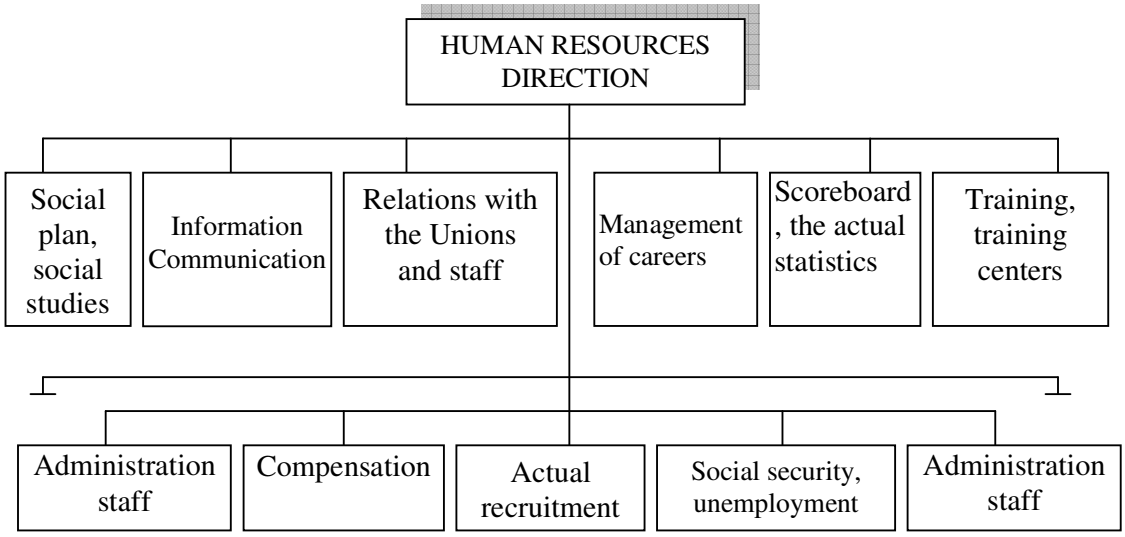


Fig. No. 2: Decentralized organizational structure of the functions of human resources in large enterprises

In big companies, department of human resources may have an employment of specialized personnel in the two major components: the SOFT (mental) and the HARD (logistics) – ***Figure No.3.***

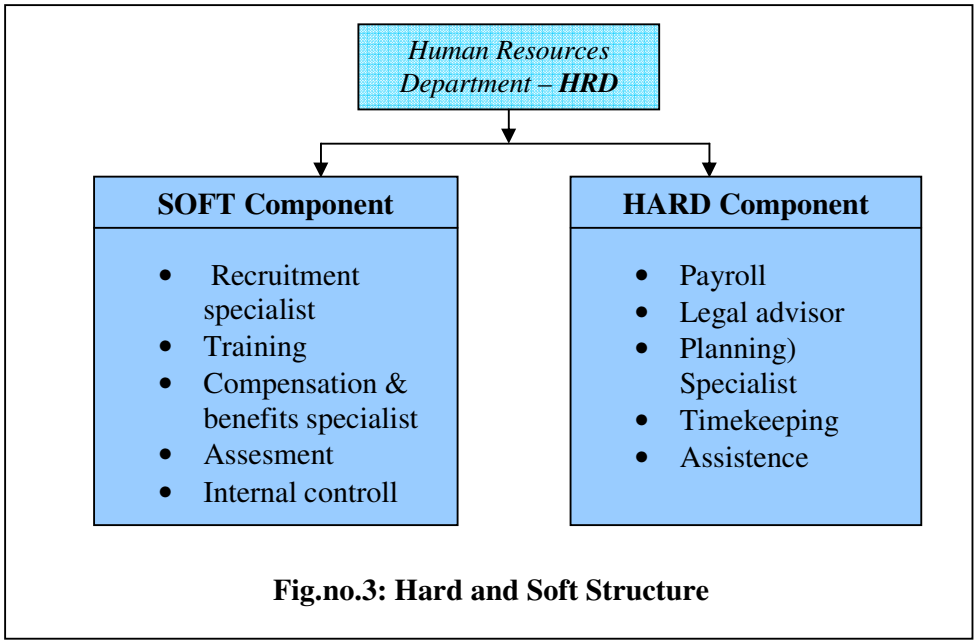


Fig.no.3: Hard and Soft Structure

Organizing the human resources, taking into account the size and profile of the company, can be achieved as follows:

1. on the large areas organization;
2. on the objectives organization.

On the large areas organization

1. *On the large areas organization*, specific to big enterprises, involves the creation of a directorate of human resources, which is structured on the following organizational sections:

a. Human Resource Management, which deals with:
   - Recruitment and employment of staff;
   - Registration staff and individual employment contracts;
   - Management of remuneration;
   - The application of laws in the field.

b. The management of careers, particularly important section, which deals with:
   - Defining the posts;
   - Evaluation of employment posts and employees;
   - Plan for promotion and movement of personnel;
   - The use of staff;
   - The adaptation of labor to changes in the volume of activity;
   - The application of participatory methods to enterprise activities and results, etc.

c. Section of effective personnel - salaries are dealing with:
   - Establishing forecast staffing needs;
   - Implementation of the promotion and movement of personnel;
   - Development and wage policy;
   - Calculating the costs of salaries and other personnel;
   - Drawing up the budget on staff costs;
   - Calculating the costs for social security and aid for the unemployed, etc.;

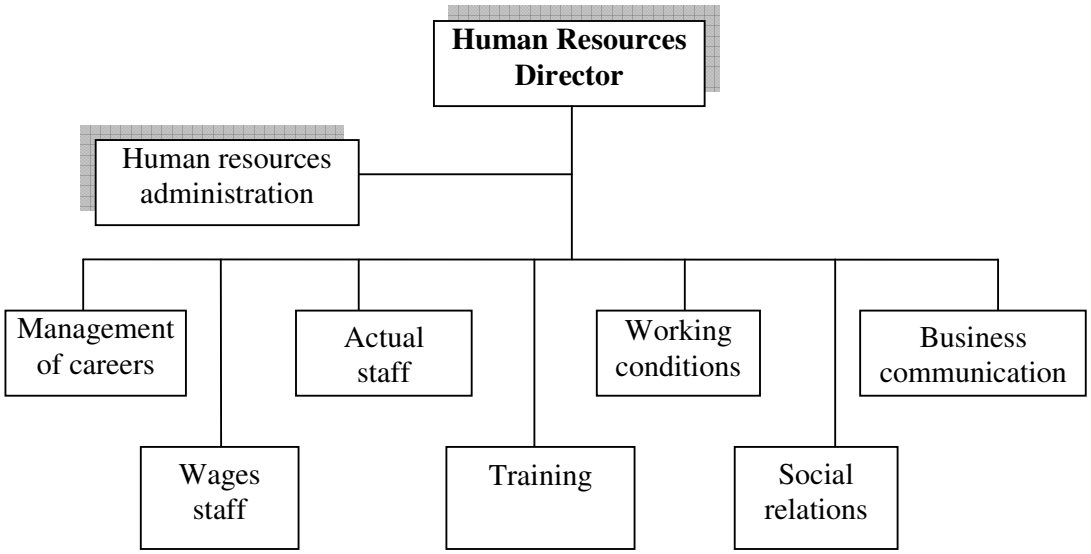
d. Section of preparing staff are as the main tasks:
   - Establishing needs for training and refresher training;
   - Plan training and forms of realization of it (internal training, external training);
   - Assessing the results of training.

e. Working conditions compartment is integrated functions of personnel and it's dealing with:
   - The organization of work;
   - Ensuring the safety and hygiene of work;
   - Health care;
   - Work timing.

f. Social Relations is the section which has the main tasks:
   - Negotiations or on personnel matters;
   - Negotiation and conclusion of collective work;
   - Social security;
   - Conduct relations with unions;
   - Unemployment;
   - Developing rules of internal procedure

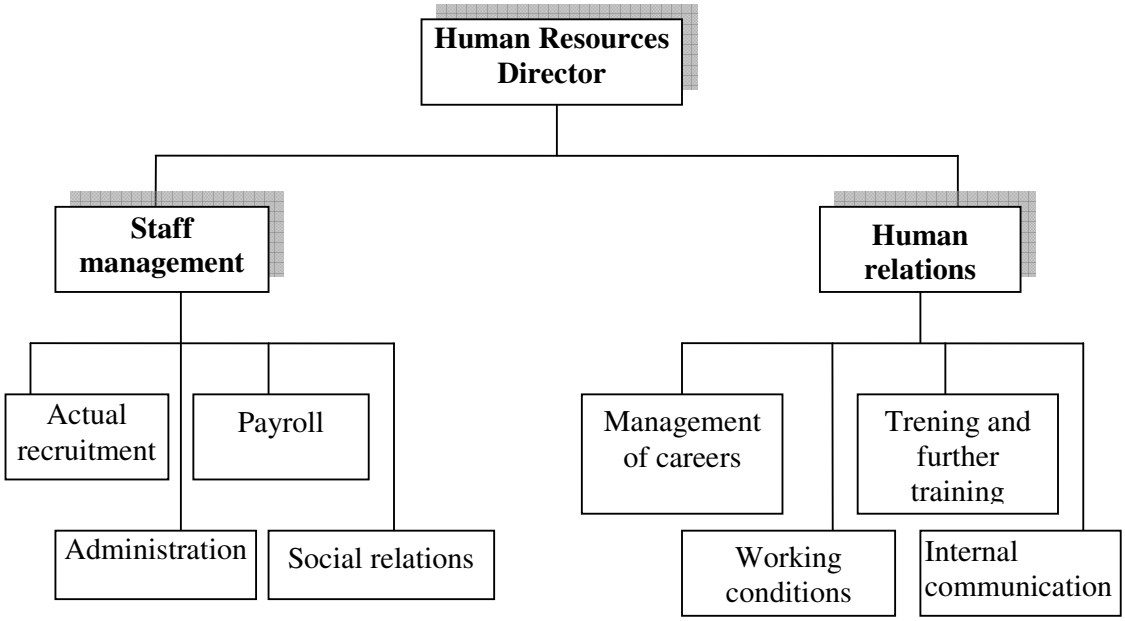
g. Section of communications business dealing with the regularly informed of the employees on the status of the company, using various means (conferences, advertising, audio-visual spots, display, etc.).

Organizational work on areas of human resources is as follows:



On the objectives organization

2. *On the objectives organization* is based on the idea that the responsibility of management human resources is to promote satisfy the requirements of employees. Thus, according to the objectives pursued, namely the prevention of dissatisfaction and promote employee satisfaction, are as follows:



Thus, corresponding to the two main objectives, departments are organized as follows: - *Staff management*, aiming to prevent dissatisfaction of the employees, are in the sphere of responsibility: herds of staff recruitment, administration of their pay and personal relationships. - *Human relations*, the department aims to promote the satisfaction of employees, dealing with the management of careers, training and further training, working conditions, internal communications.

2. Principles guide of organization

In general, the process of determining the structure of DHR should be taken into account some principles guide[35]:

- The manager of functions to be directly subordinate general manager of the company, to be part of the structures participatory management (Board of Governors, the board) to contribute to developing human resources strategy;
- in a decentralized organization, companies, divisions or units of subsidiary should be responsible for their own problems of human resource management in the strategic directives issued by the centre;
- in a decentralized organization, the central functions of human resources should be reduced to the minimum necessary for developing strategies and policies for human resources of the group may object: the purchase of higher-level management in all components of the group, making recommendations regarding the recruitment and career development, controlling policies of non-pay and benefits for senior managers, coordinating collective etc.;
- human resources functions should be able to provide advice and specialized services at the required level of organization (i.e.: the provision of services cost-effective and efficient in terms of costs in areas such as recruitment, training, compensation, problems of protection labour and health and human resources records);
- human resources functions should be organized under the fence and support services which should provide him with range of activities which should provide resources such as the procurement of human resources, management development, training, management rewards, relations with employees, safety and health, social protection, information systems human resources, etc.

Also bear in mind how it is perceived by the human resources department within the organization:

- As *auxiliary*: i.e. service provider to other departments;
- *Support* the implementation of the strategy by engaging in business: developing human resources strategy, performance evaluation for creating motivational systems, creating systems of education (continuous training).

Within a company, the department of human resources depends on the manager and the organizational environment to the extent of 50% each.

The role of the department of human resources is to ensure support for the organization to achieve its objectives through an effective management and development work. The work of this department would track people and their activities within an organization and the development and application of methods, techniques, programs and policies on human resources available or to be committed and respect the laws in force.

Main activities of the Human Resources Department

The main activities[36] carried out within DHR are also in:

- Determination and providing the necessary human resources throughout the organization both in terms of numerical and structural and qualitative;
- Developing the organizational structure of the organization and all its subdivisions;
- Recruitment policy to attract the more people;

[35] Michael Armstrong: "Human Resource Management - manual practice, CODECS Publishing House, Bucharest, 2003;
[36] Iulia Chivu: "The European human resource management, Luceafarul Publishing House, Bucharest, 2003;

- Identifying and implementing the most effective methods and selection procedures, to the employment of competent human resources and competitive;
- Realization of integration training programs for new employees and the design of career plans for them;
- Conducting training programs, retraining, training or advanced training of human resources;
- Policy development and management of their salary;
- Ensuring optimal working conditions for all employees, including creating the conditions necessary for carrying people with disabilities;
- Ensuring conditions for rest and relaxation for all employees (planning and granting annual leave, the granting of days off, etc.).
- Records of all human activity engaged in the organization (including changes in the operation of the register of employees);
- Periodic evaluation of the results of the work of human resources;
- Developing and implementing policies to promote human resources performance;
- Ensuring the necessary documents pursuit of human resources (for travel, delegations, deployment, transfers, etc. in the country or abroad);
- Standing in the service organization;
- Secrecy and service operation with secret documents etc.

Department of Human Resources is meant to be a link between the leadership and managerial staff organization and between the external and internal environment of the enterprise.

Conclusion: You can see an increase in the importance of human resource management and human resources department in the last 10 years, significantly reaching a certain maturity and as being in a real key to success in the Romanian business environment. In the context of the current economic dynamic, full of constraints and opportunities, the department of human resources has become indispensable, especially because of the complexity of the labour market and efforts needed to identify, attract and retention of staff performance.

References:

1. Aurel Manolescu: "Human Resource Management, Economic Publishing House, Bucharest, 2003;
2. Michael Armstrong: "Human Resource Management - manual practice, CODECS Publishing House, Bucharest, 2003;
3. Iulia Chivu: "The European human resource management, Luceafarul Publishing House, Bucharest, 2003;
4. C-tin Rosca, D. Rosca: "Human resources: management, strategy, policy," Universitaria Publishing House, Craiova, 2005;
5. Monica Roman: „Human resources in Romania. Evaluation and efficiency", A.S.E. Publishing House, 2005.

The role of training, coaching and mentoring in career development

Assistant professor PhD Student Eliza ANTONIU
University of Pitesti
elizantoniu@yahoo.com

Abstract
The organizations' human resource development is an essential element for maintaining competitive advantage in a market that is constantly changing situations and decision-making under uncertainty. Among the most common forms of staff capacity building fits in this context the activities of training, mentoring and coaching fits in this context.

Keywords*: training, human resources management, mentoring, coaching, "on-the job" method, "off-the-job" method.*

The current economic and social context, both at European level and in Romania, requires a reconsideration of the importance of specific activities of human resource management at the organizational level. Any organization interested in developing and maintaining global market increasingly strong competitive grants a strategic management of human resources. Human resources are increasingly often considered an essential factor for obtaining and maintaining a competitive advantage, as a result, the processes of recruitment, training, development and retain employees have been given great importance. Among the most common forms of capacity building staff fits in this context the activities of training, mentoring and coaching fits in this context.

1. The training method

Training is defined in literature[37] as formal and systematic change behaviour through learning place as a result of education, educational activities, and the development of planned practical experiences.

Fundamental goal of training is to help organizations to reach their objectives by developing their main resource - employees. A train means to invest in people to help them achieve better performance and to enable them to use the most efficient native capacities.

The main objectives of the training are:

- To develop skills and competencies of employees and to improve performance;
- To contribute to the development of employees within the organization so that the future needs of the labour force it to be met as far as possible from the inside;
- To reduce the time required learning for employees appointed on a new post by employment, transfer or promotion, ensuring the acquisition of competence required as quickly as possible and with a little expenditure.

The organizations training needs may be structured in three categories:

- ***training needs of the company*** as a whole (valid for big companies with large number of employees and with a well-contoured organizational culture), consisting in creating a sense of belonging to a team with common values, familiarity with the company and the organizational culture of it. At this stage the employee is placed in the new work environment;

[37] Michael Armstrong: "Human Resources Management – practice manual", CODECS Publishing House, Bucharest, 2003;

- ***training needs of the department*** are the specific tasks of it (e.g. sales force, accounting, customer service, etc.). Here, the outline hierarchical and a sheet of post clear and explicit are essential to identify these needs;
- ***training needs of the employee***'s need for its aspirations and individual career planning.

The development's programmes[38] of employees must be correlated with the overall strategy of the company and an effective training activity can be achieved only if the company knows their needs and clearly define its objectives. Identification of training needs is the evaluation of performance of employees on the basis of qualitative and quantitative targets. The Romanian companies believes that training is a way to increase the results through professional development of employees; it has led to a request for training programs tailored to the sector of activity, including tools, techniques and specific case studies.

Employees are recommended specific training depending on the stage reached in and position within the company. Thus:

- *New employees*: introductory training on sales techniques and organizational culture;
- *Employees with experience*: training for the development of professional skills (advanced sales techniques, customer-oriented, technical - depending on the specific activity) and "soft skills" (communication, effective leadership, time management, teambuilding);

For managers of medium and higher level the focus is on training the "soft skills" to come to complete an already solid base of knowledge. For the formation and development of certain soft skills training is used „in door" (with trainers from outside the company) and for the formation of specific skills to use the „on the job".

2. The „on the job" technique

Technique "on the job" takes place at work and can be used every day as part of a training program specifically drafted. Among the methods used include:

1. *Demo* - is the method to explain and show participants how to run a paper, and then enables them to carry out the work in question. It is the most used method of training because it involves direct and active participation of the employees;
2. *Rotation of posts / planning experience* - aims to increase the experience of employees by moving them from one post to another or from one department to another. This can be a frustrating and inefficient method of obtaining some additional knowledge and skills, where it is not properly planned and controlled.

In the course of formal training and technique is used "off-the-job", which includes:

- *Reading* - is a discussion with a very low participation, with the exception of questions and answers at the end of the training. It is used to transfer information to audience, with content and a time-controlled. Effectiveness of a reading depends on the ability of the trainer of this material with the visual.
- *Discussions* - this method is used to make the auditor to actively participate in the study, to give participants the opportunity to learn from the experience of others, to help participants to understand other points of view and develop the capacity of expression. Trainer goal lies in targeting the group, should stimulate a willingness to discuss, to guide the discussion's preset directions and provide a conclusion.
- *Case studies* - the description of an event or more circumstances, which are analyzed by the participants to diagnose the causes of problems and finding a solution. Case studies are used in particular in the training for managers and heads of departments, because they

[38] The magazine "Business magazine", nr. 118/2007, pg. 32 – 35;

are based on the belief that managerial competence and understanding can be best achieved through study and discussion of a certain events.

- *Games role* - participants draw up a statement by assuming the roles of the characters involved. The situation is that there are interactions between 2 persons or within a group. Each participant shall give written directions and are largely explains their role in the game. The game of role is used to give managers, heads of departments responsible for sales and the possibility of applying real situations that interview, the management team, keeping of meetings, counselling, meeting the performance evaluation.
- *Simulation* - the method of training that combines case studies and role-play to gain a maximum of realism. The goal is to assimilate more easily what it has been learned by reproducing situations that are most close to real life. Participants have such opportunity to exercise behaviour in identical or similar to those that they will encounter in their work.
- *Workshops* - are a group of people gathered particular, with which a person examine common problems in the organization.

In Romania is spent on average 92 euro per year per employee on training, motivational and teambuilding activities. There are companies which allocated amounts ranging between 150-200 euros / year / employee and multinational companies provide a budget for training all employees twice a year which represents 1% of turnover. Big companies allocate an average of 1000-1500 Euro / 1 day training. The structure of a budget development staff includes:

- 50% of the budget is earmarked for technical training;
- 30% for the training of "soft skills";
- 20% incentive programs (with important role in motivating employees).

Training activities contribute to increase the implication of the employees and the development of their business, with direct effect on growth performance.

Coaching and *mentoring* as a method of development processes are staff training and assessment offered by the supervisor of employees who are immediately above in the hierarchy, so that an effective coaching could have an open relationship between employee and manager (supervisor). Supervisor is seen as a coach for the "player" that came to his team, or as a mentor (guardian) for "the protégé" or, in both cases the aim is the integration and assimilation easy tasks and streamline business post. Human resources management in the two notions are often used interchangeable, although there are some differences between them. *Mentoring* is traditionally focused on long-term, has more extensive problems and needs generated by the organization. *Coaching* is focused on short-term and focus on specific tasks, taking into account primarily individual needs.

3. The mentoring method

The mentor[39] is the person who encourages, supports and advises the employee in the evolution career. At the same time, he gives it practical assistance to ensure that are able to achieve the objectives of professional and personal development. The activity of mentoring or mentoring completed training of employees in the workplace, as a very good acquisition of skills and knowledge of a specific post.

The mentor[40] can be defined as a senior and a higher position in the organization that gives a young person a special situation, giving them advice and creating the opportunities.

[39] www.careerexperts.ro;
[40] Gary Jones: „Organizational behavior", Economic Publishing House, Bucharest, 1998, pg. 573 – 575;

Mentor roles are:

- *Support* (mentor can nominate disciple for transfers and promotions advantageous);
- *Exposure and visibility* (mentor disciple gives the opportunity to work with key members);
- *Prepare and feed-back* (mentor suggests strategies and identify strengths / weaknesses of the disciple);
- *Development of professional capacities* (which works mentor and gives disciple can help it to develop key skill and knowledge essential for career progress.

Mentoring relationship usually lasts for between one and five years and through three phases:

1. *Start* (takes about 6 months and aims to knowing better);
2. *Support / cultivation* (phase is the mentor teach you, guide and advise the disciple);
3. *Separation* (when the disciple no longer needs mentor, he or choosing and being chosen as a mentor for someone else).

The coach is the person who helps the employee to discover the potential of facilitating development, increased standard of performance and capacity to change patterns of behaviour and thinking.

4. The coaching method

Coaching is seen as a new profession as an art to assist the partner to define and clarify objectives, to establish a way of achieving these objectives, and to provide necessary support to ensure that they obtain what is important for him. Can be:

- *Individual*: pursuing development in a personal approach;
- *Team*: aims at supporting the development of the collective team performance in a continuous and measurable, so that the result of all operational team to exceed the potential of each state party.

Coaching is distinguished from other forms of intervention (see ***Table 1***) by:

- Is addressed to a person in the situation, so not only the person or to the situation, but both in equal;
- To call him when the crossing times of crisis, when the need for change is accompanied by recognition, or reticence, resistance or inertia, blocking the will of transformation;
- Its goal is awareness and resistance of crash interior, creating the premises for the release of existing and potential formation of a new behaviour;
- Ensure overcoming obstacles, facilitate and stimulate change in performance;
- The agent of change is the facilitator of reflection, simulator supportive, intimate critic, broadcaster, compensating the customer unrest;
- Dual purpose: the individual comes in and support organization, helping it to regenerate, to increase efficiency and productivity of human collective.

Table. 1: Advantages and disadvantages of using the instruments of human resources development

Development tools internalize	***ADVANTAGES***	***DISADVANTAGES***
Coaching	natural and related well with	difficult job of finding good

	the job requests	coaches
Rotation	excellent overview of the entire organization	long time to adjust
Role playing	may lead in changing attitudes in interpersonal relationships difficult	participants may feel uncomfortable
Simulations	realism and integration	entry in the inappropriate "game"
Practical case studies	Practical, those involved can learn from the real management	information may be inappropriate for some decision makers
Training	refers to the important managerial skills	difficult to measure efficiency
Courses at tertiary	well accepted, provide social status	does not always improve performance

Source: www.coaching.ro

In relation to the level at which are realized, the several types of coaching are:

1. ***at the organizational level***, aimed at cooperation between the organization and employees, facilitating relations between compartments, changing organizational climate or organizational culture<
2. ***at the level groups and teams work***, following the achievement of team cohesion, setting concrete objectives (and is also known as team building);
3. ***at the individual level***, tracking personal development and overcoming their obstacles.

The main forms of individual coaching are:

- coaching involves the transmission of technical knowledge and techniques obtained by a senior by a collaborator;
- coaching involves the resolution, overcoming the limits of their employee;
- coaching development through which individual seeking the best means of achieving its ambitious goals.

Within the organizations the emphasis is placed on coaching management teams, aimed at developing a collective team performance in a continuous and measurable so that the result of all operational team to exceed the potential of each state party.

In conclusion, one can say that a coaching performance is characterized by:

- Creating a secure environment and achieve a relationship of trust between trainer and client;
- Helps the client / team to set goals and appropriate methods for the assessment of their achievement;
- Combining the techniques of facilitation, advice and training;
- Encouraging ownership commitment to personal development team;
- The coach is a person extremely well prepared and with practical experience in working in the field.

References:

1. Michael Armstrong: "Human Resource Management – practice manual", CODECS Publishing House, Bucharest, 2003;
2. Gary Johns, "Organizational Behaviour.", Economic Publishing House, Bucharest, 1998, pg.573 - 575;
3. The magazine "Business Magazine, nr.118/2007, pg.32 – 35;
4. www.coaching.ro;
5. www.careerexperts.ro.