

The background of the cover is a photograph of a tall, narrow, multi-colored tower structure. The tower is composed of several vertical sections, each with a different color: dark red, light green, and black. The tower is positioned diagonally, rising from the bottom left towards the top right. The sky is a clear, light blue with some faint, wispy clouds. The overall composition is clean and modern.

# **PRODUCTIVITY**

## **the high road to wealth**

**Memorandum**



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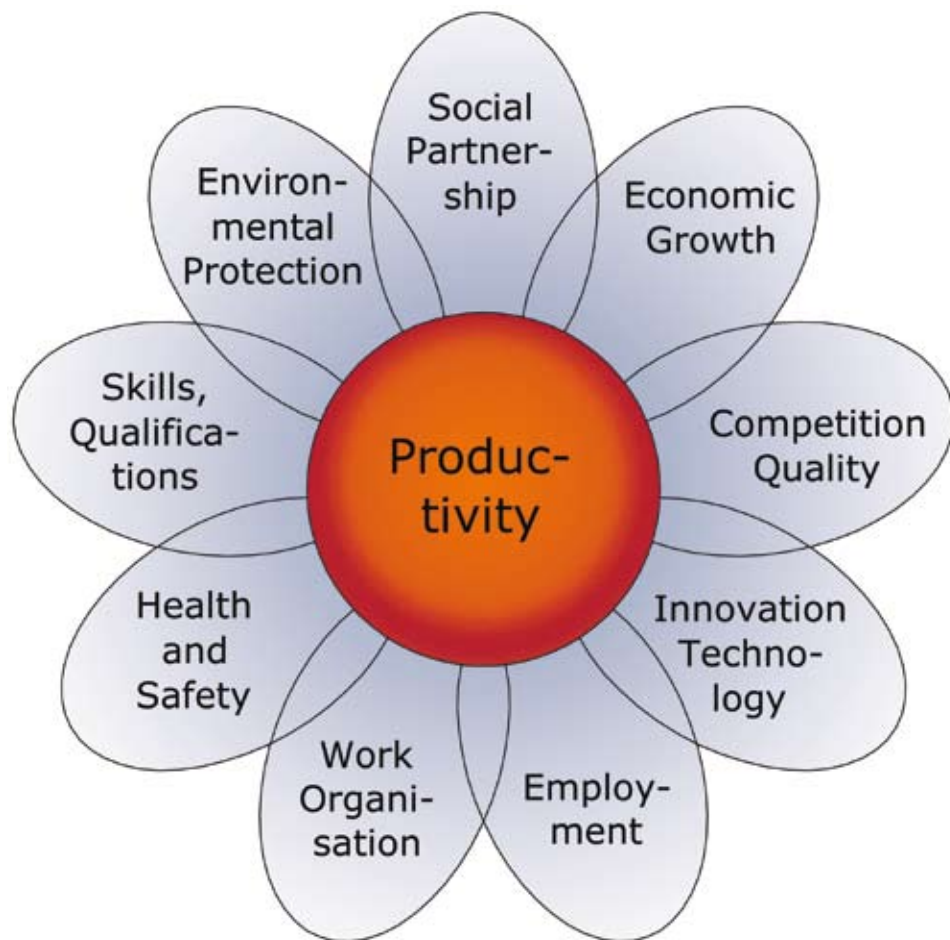


Figure 1: Productivity and its contributing factors  
Source: The Finnish Work Environment Fund

## 1. Purpose of the Memorandum

The purpose of this Memorandum is to give a more comprehensive meaning to the concept of productivity in relationship to three other key issues in current European society—innovation, quality of working life and employment—with a view to reaching not only a common understanding among the partners co-operating with member organisations of the EANPC and their own staff, but also among labour unions, employer organisations, SME's and policy makers in the European Union.

The Memorandum is intended to contribute to co-ordinating the work of the individual member organisations and enhance co-operation within the EANPC as such. National focal activities can then be better set within economic and employment policy overall and discussed against the background of experiences which are specific to the individual countries. So by stimulating and intensifying dialogue within the EANPC and other co-operation partners, the Memorandum should lead to joint actions.

The Memorandum is based on internal discussions on the goals and areas of concern of the EANPC's member organisations, the proceedings of the bi-annual meetings of the EANPC's Managing Board, those of the biennial International Productivity Symposia as well as a selection of important economic policy material. After more than half a century of European productivity co-operation following the launch of Marshall Aid in 1948, it sets out the fundamentals for fostering productivity, thereby serving as a basic paper for co-operation among member organisations.

The approach used is successively: to define the range of meanings of the word 'productivity'; to outline productivity as a contributing factor to value creation; to describe its related factors; to give examples of how productivity development has been addressed with good or bad results for society as a whole; and to express what the EANPC—and indeed the broader international productivity network— can do.

### **1.1 The challenge of the 21st Century**

At the beginning of the 21st Century, all countries are confronted with a constantly changing set of challenges. These, to name the most significant, are:

- the globalisation of the economy for services, goods, and labour;
- the development of global production and distribution systems;
- increased expectations on the social responsibility of business;
- increasing concern about environmental impacts;
- the growth of both unemployment and new forms of employment, such as self employed knowledge workers;
- the shift in competitiveness from cost factors to innovation and customisation;
- the shift from mass production to customised variety and quality production, with

- greater emphasis on capital productivity and “instant” availability;
- the changing structure of production to networked production;
- the need to develop and disseminate forms of work organisation that reproduce rather than exhaust human capital (sustainable work);
- the advent of the information society and the associated importance of knowledge management;
- the rise of the concept of virtual and mobile work and its consequences for the nature of work;

Moreover, there have been several important and relevant changes within Europe especially the introduction of the Euro, the Lisbon agenda, the debate about the social agenda, new member states in the European Union and last but not least the renewed interest in productivity and innovation due to the economic recession on the one hand and an aging workforce at the other. Of course it has to be recognised that the manifestations of these challenges and developments are different in different countries.

summarizing

Thus, enterprises and organisations—public as well as private, those producing services as well as goods—need to harness all the resources available to them in the design and continuous re-design of organisations which seek—within the parameters of the ‘European model’—a continuously changing balance between all types of flexibility and security, in the interests of both the organisation and the individual. Only through the development of partnerships and co-operative approaches to these ends will it be possible to smoothly re-balance work and organisation for the benefit of all stakeholders. However, in order to understand the practical consequences of more productivity for different stakeholders it has to be noted that productivity affects different levels of an economy: the macro level, (the level of a nation), the meso level (the level of a branch) and the micro level (the level of an individual producer or worker). It is important to realise that an act or a policy may have beneficial effects on stakeholders on the macro level while the same act or policy has detrimental effects on stakeholders on the micro level. Moreover productivity effects may have different consequences for different groups in society. Policymakers should not be looking only at the immediate consequences of an act or proposal, nor looking at the consequences only on a particular group to the neglect of other groups. It is true of course that the opposite error is possible.

In considering a policy one ought not to concentrate only on its long-run results for the community as a whole. This is an error often made by the classical economists. It results in a certain callousness toward the fate of groups that were immediately hurt by policies or developments which proved to be beneficial on net balance (on the macro level) and in the long run. The most frequent fallacy today, however, is to concentrate solely on the short-run effects of policies on special groups and to ignore or belittle the long-run effects on the community as a whole.

### Joe Smith's story and what happens to others

Suppose Joe Smith, a worker in a coat factory is thrown out of a job by the introduction of a new machine that boosts the productivity of a coat producer. This productivity measure has negative effects on Joe Smith, since he loses his job, but one must not forget that Tom Jones just got a new job in making the new machine, and Ted Brown, who has just got a job operating one and Daisy Miller who can now buy a coat for half what it used to cost her or John Jackson who got a new job at the grocery store because many Daisy Millers are able to buy cheaper food etc.

Yes, policy makers should at least keep one eye on Joe Smith. He has been thrown out of a job by a new machine; perhaps he can soon get another job, maybe even a better one. But perhaps, also, he has devoted many years of his life to acquiring and improving a special skill, for which the market no longer has any use. He has lost his investment in himself, in his old skill, just as his former employer, perhaps has lost his investment in old machines or processes suddenly rendered obsolete. Policy makers must ask themselves what the policy implications are in the 'Joe Smith cases', which are numerous and often high profile when whole plants, or even firms, close down.

Nowadays, the issue of outsourcing work to low wages countries will typically raise these problems for particular groups of people. The EANPC supports productivity growth, since on the long-run and on net balance it is necessary for human progress; but it proposes several directions toward policy measures that can be taken to diminish the negative consequences of productivity growth for particular groups or individuals in the short-run. In short: productivity growth will enhance wealth and is therefore a good policy issue, but it has to be accompanied by a policy to prevent unintended results.

### 1.2 Productivity stakeholders

Productivity concerns several stakeholders in society. Apart from the **shareholders** who get more in return for the money they have invested and from the **managers** and **workers** that can stay employed in the companies that survive by being more productive other stakeholders are:

- **Consumers:** productivity improvement may lead to lower prices for the products or services being produced more efficiently.
- **Suppliers** benefit from the productivity improvement of the companies they deliver good or services to since they will have the opportunity to enhance that delivery, if at least the extra end products or services are consumed.

- **Labour unions and employee organisations:** productivity improvement on the national level will improve the national economy accompanied by the creation of more new jobs and room for higher wages. On the other hand, technological innovation or cost cutting on labour or capital, can cause involuntary unemployment for a particular group or for individuals. By all means labour unions must protect the interests of these particular groups and individuals by supporting them to become employable in another sector or company. Labour unions should insist on standards to increase the level of skill and competence of workers. Furthermore they should continue protecting workers' health. Especially where labour is plentiful, employers stand to make short-run gains by speeding up workers and working them long hours in spite of ultimate ill effects upon their health, because they can easily be replaced by others. And sometimes ignorant or short-sighted employers might even reduce their own profits by overworking their employees. In these cases the unions, by demanding decent standards of working conditions, can increase the well-being of their members. However productivity is not a bad issue. Unions must take into account the positive long-run effects of productivity on groups other than the affected particular group, as has been demonstrated in the example above.
- **Employers organisations:** productivity improvement from the perspective of employers organisations can be defended *prima facie*. More productivity means that with less input of labour and capital, the same output can be achieved, or with the same input, more output can be generated. Entrepreneurs constantly aim, all other things being equal, at more productive companies in order to generate more revenues and/or profits. Employers' organisations should support entrepreneurs to facilitate their technological, organisational and human capital innovations which enable continuous productivity growth.
- **Policy makers:** As has been explained previously, productivity growth, all other things being equal, leads to economic growth and as such can be considered positively. However, in the short run particular groups can be affected negatively. To mitigate these negative consequences policy makers should aim at developing measures to make individual workers less dependent of a particular job or sector by encouraging training and education making them more employable and multidisciplinary. In addition, policy makers should follow up on the National Programmes aimed at productivity improvement and organisational development, which have been established in several member states, such as:
  - **Germany** has along history on national programmes that started in 1974. Recently two new programmes started: Innovative Arbeitsgestaltung – Zukunft der Arbeit ((Innovative Work design – Future of Work: new forms of work and work organisation, education and training) and Initiative Neue Qualität der Arbeit (Initiative New Quality of work);

- In 1997 **Sweden** started the programme ‘Humans, Technology and Organisation (LOM)’, that was to have ended in 2000, but has been extended to 2004. In addition to the LOM programme there is running to 2006 the National programme Sustainable Work systems and Health.
  - **Denmark** started the National Programme: ‘Funds for the Promotion of Better Working Lives and Increased Growth’;
  - **Norway** started in 1994 the programme ‘Enterprise Development 2000’ running to 2001. It was followed by the programme Value Creation 2010 for company and workplace development.
  - In **Ireland** an active centre, The National Centre for Partnership and Performance (NCPP), contributed to that country’s fast and successful economic development;
  - In **Finland** the Ministry of Labour stimulates and supports many programmes for organisational innovations, especially by the National programme: Finnish Work Place Development and Productivity Programme (TYKES) .
  - In **France** a new law (Aubry, 1998) concerning shortening of working hours was accompanied by a programme to introduce new forms of work organisation
  - In the **UK** the Department of Trade and Industry launched The Partnership at Work Fund of which the aim is to promote partnership to improve performance at the workplace.
- **SME’s, small and medium sized companies**, benefit individually from productivity growth. However, as has been explained already, entrepreneurs who continuously fail to enhance their management will eventually go bankrupt. For SME’s it is of vital importance to continuously strive for better (production systems?), enhanced human capital and better capital equipment/machinery and technology to keep up with the pace of competitors.

Finally, the call for more efficient and effective public services in the ‘old’ EU member states is becoming increasingly important. The demand for more and better public services in e.g. The Netherlands, Spain, UK is obvious, especially in the education and healthcare sectors. As long as these sectors are in hands of a national or local governmental organisation, they should give good value in return for the taxes that people pay. As the demographic situation in many EU countries also is unfavorable, a potential lack of labour can be foreseen at the same time as the share of elderly citizens is growing. This gives an equation that is hard to solve unless the productivity and quality of public services will be given proper emphasis. It is not the question of giving elderly people less care and attention, but it is the question of organising and managing the production of efficient services. In this respect the public service providers could learn from private enterprises. Although productivity is often more difficult to measure in the service sector and especially in public services, this should not prevent policy makers from introducing and developing the need for ‘productivity thinking’ in these areas.

public services

demographic problems

## 2. The EANPC

### EANPC

The European Association of National Productivity Centres—EANPC—was established in 1966. Its seat is in Brussels. It is an association of national bi- and tri-partite bodies which contribute, each in its own country, to the enhancement of productivity, innovation, the quality of working life (QWL) and employment within companies and the economy overall.

As a pan-European organisation, the EANPC is open to all European countries, not being limited to the countries of the European Union. It is a part of, and actively contributes to, the world-wide network of productivity and QWL organisations.

Through its support of productivity enhancement, the EANPC and its national member organisations contribute to improving living and working conditions. Their work supports economic and social development on the national and international levels in the interest of fair competition.

As a European body, the EANPC supports other international organisations such as the ILO, the OECD and the European Commission, whereas the national members buttress, each in its own country, the state and enterprises in order to promote economic growth, innovation, better working conditions and employment.

### EPN

The EANPC is also acting in order to maintain a network (European Productivity Network: EPN) that includes organizations that for different reasons are not members of EANPC. The association is especially interested in keeping up contacts and information exchange with other bodies that are active in the productivity field either on global scale or in the European countries. Such network partners will be invited to visit EANPC seminars and they are free to find other ways of cooperation with the members of EANPC according to mutual agreements. These EPN-partners do not have formal rights within EANPC, but are not paying membership fee either.

To underpin the development of productivity, the EANPC organises and contributes to exchanges of experiences between member organisations, potential members and other organisations world-wide. It collects and collates research results on the factors influencing productivity and their impact, stimulates the transfer of know-how from research to economic policy and enterprises and acts as a partner for various national bodies and organisations, particularly ministries and other societal institutions, unions and employers associations and companies among which especially SME's.

This Memorandum sets out the goals of the member organisations and their prime areas of concern. It thus enables potential partners to see those areas in which co-operation is possible. It presents, under the “umbrella” of productivity development, various economic policy and labour policy facts and integrates key areas of concern into a common

“productivity house”.

The concept of “productivity” is used in this Memorandum in a very broad meaning: it contributes to value creation or added value by making continuously better use of resources to contribute to growth, innovation and employment; it is not seen just as a statistical ratio.

### 3. Productivity: value creation and measurement

Productivity is an expression of how efficiently and effectively goods and services (i.e. goods and services which are demanded by users) are being produced. Thus, its key characteristics are that it is expressed in *physical or economic units*—in quantities or values (money)—based on *measurements* which are made at *different levels*: on the level of the economy overall, that of a sector or branch of the economy, that of the enterprise and its individual plants/units and that of individuals.

#### 3.1 The relation between productivity and value creation

If productivity is to play a role for organisations, it has to be linked to other organisational objectives. In general, organisational success is dominated by three core factors (Van Ark, 2004):

1. the activities the organisation performs ('what is done')
2. the purchase and sales prices of goods and services ('the price for which it is done')
3. and the productivity with which the inputs are transformed to outputs ('how it is done')

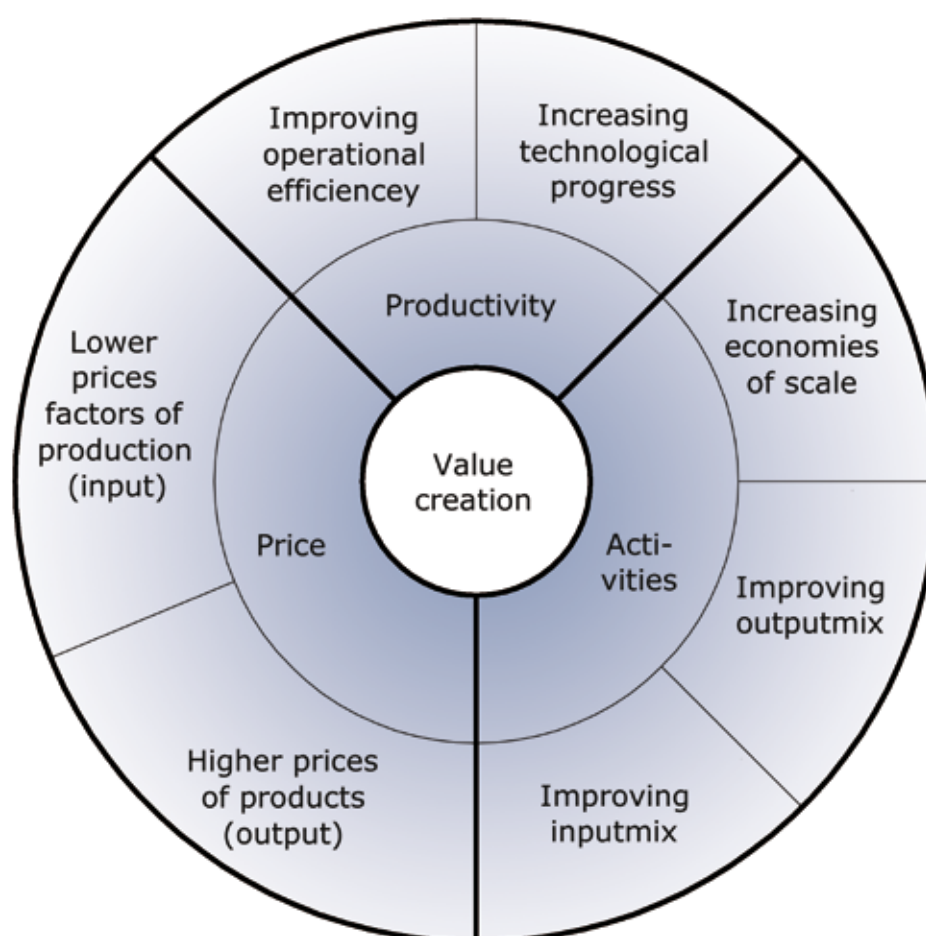


Figure 2: The wheel of value creation  
Source: Van Ark & De Jong, 2004

These effects, called the activity effect, the price effect and the productivity effect, have all three a direct effect on the general organisational objective: the creation of value or the creation of added value by the factors of production: capital and labour (figure 2). Productivity improvements can be obtained through an improvement in operational efficiency (the recipes of production/ production management) and technological progress or the introduction of a breakthrough innovation. The price effect is related to a fall in the costs of the inputs used and/or a rise of sales prices. Finally the activity effect consists of three underlying factors: a change in the output mix can lead to a rise of value creation by marketing new products or services, whereas the input mix concerns a change in the input structure. Scale is related to economies of scale which create added value.

The effects, however, can neutralise one another, particularly in the service sector. For example standardisation can raise productivity substantially; however the negative consequences on the quality of the service, the comfort, or the custom-made character of the service may cause the customers to abandon the service. It is extremely important to balance the activities, the price and productivity as sources of value creation. The choice of engaging in certain activities determines the markets in which the organisation will be active, while prices determine the revenue. In order to raise productivity it is essential to manage the organisational processes such that the input mix is optimal, which guarantees the market share to be maintained or even raised in times of economic crisis and continuously adds value to the enterprise.

### 3.2 Productivity measurement

Companies use performance indicators to measure the productivity. The following table gives an overview of the most frequently used performance indicators.

<i>Input measures</i>	<i>Output measures</i>			
	Physical volume (V)	Revenue (R)	Profit (Z)	Added value (A)
Total investment (I)	V/I	R/I	Z/I	A/I
Fixed investment (If)	V/If	R/If	Z/If	A/If
Number of employees (N)	V/N	R/N	Z/N	A/N
Total of hours worked (H)	V/H	R/H	Z/H	A/H
Wages of employees (W)	V/W	R/W		A/W
Costs of material (M)	V/M	R/M		
Total Costs (C)	V/C	R/C		

Table 1: productivity measurement

Source: S Eilon (1985), A framework for Profitability and Productivity Measures

The performance indicators in the first column of the table are based on physical output or quantities, such as tons or volume. They are particularly used in industrial companies. The

quantities

second and third columns refer to financial indicators, which focus on profit and loss. The R/I and Z/I ratios represent capital revenues. These indicators are mainly used in financial reports. The last column refers to performance indicators based on added value. Added value is defined as revenues minus operational costs (materials, energy, and purchased services). It represents the added value that the company creates through employing labour and capital.

quantification

In order to be able to monitor productivity development it is recommended that productivity indicators be quantified. However, measuring productivity in the service sector is difficult and uncertain. For instance the productivity of a bank or a consultancy firm is hard to determine: the differences in the quality of the various services offered and the customisation of the service often lead to rough measures of productivity. The discrepancies in productivity figures which are presented in various on-line research databases are tantamount to this measurement problem. Nevertheless, the following link offers some of the most accepted databases on productivity.

databases on  
productivity

<http://www.eco.rug.nl/GGDC/dseries/dataseries.shtml>

labour  
productivity

On the national level productivity is usually measured in terms of the volume of labour used in relation to the output produced (GDP, Gross Domestic Product). For within enterprises, 'labour' (meaning 'human beings at work') tends to be either the single most important factor of production or that which is easiest to measure (in terms of persons employed or hours worked). Within the enterprise, technological and organisational changes serve to improve the effectiveness and the efficiency of the factor labour, without the outcome necessarily having been produced by labour working harder or longer.

and overall  
productivity

'Labour productivity' is usually a proxy for 'overall productivity' or 'total factor productivity'. Total factor productivity is a weighted expression of how well all the factors contributing to productivity development (labour, capital, resources, etc) are marshalled, enhanced and managed to produce the output demanded. Labour productivity does not, as such, measure the specific contributions of labour as a single factor of production. Rather, it reflects the joint efforts of many influences, including new technology, capital investment, capacity utilisation, organisational design, energy use, and managerial skills, as well as the skills and efforts of the workforce.

economic growth

Productivity has been—and remains—the main component of economic growth: it is the "residual" element that still has not been explained once all the increases in the amounts of the factors of production are accounted for. It is enhanced by substituting capital for labour, or 'taking the labour out of work'. This has been continuously taking place since the beginning of the Industrial Revolution: labour intensive processes of producing materials, transportation, information and leisure, for instance, have all been substituted by capital-intensive processes using new machinery and devices. These drastically reduce the number of workers needed in the production processes, but through the additional

wealth generated new demands for goods and services are opened up, thereby increasing employment elsewhere. At the same time, the continuous drive to make better use of labour—both as ‘brawn-power’ and ‘brain-power’—generates new employment opportunities, at least for the qualified and healthy members of the workforce who are able to cope with change.

The factors of production are not limited to the traditional ‘labour’ (or ‘human resources’), capital (both money and ‘plant and machinery’) and raw materials, but increasingly cover time, space and all resources of the environment. Hence there is the emergence of new concepts such as ‘green productivity’, trying to ensure that the benefits of productivity development for the present generation will not be detrimental for the generations to come.

On the macro-economic level, productivity on the one hand influences the use of economic resources in order to achieve better results and, on the other, is also the result of the performance process.

But all approaches to developing productivity come up against limits and can start bringing about just the opposite of what is being striven for. Thus, at a specific point in time, production can become isolated and alienated from society—through automated factories, excessively lean organisations or environmentally doubtful processes—causing difficulties in equitably distributing the value added. The net outcome can be that productivity development grinds to a halt with a deteriorating infrastructure, a lack of skills, strikes and social upheaval. Thus, productivity is not a self-perpetuating, value-free process, but rather one which requires some monitoring and, at least at times, management and intervention at various levels.

Productivity implies taking a longer term perspective than that of profitability, a concept with which it is intimately, but complexly, associated. Profitability clearly has a productivity component, but it is strongly influenced by the prices a company pays for its inputs and receives for its outputs. If a company can recover more than the cost of its inputs from rising prices for its outputs, its profitability can rise even in times when its productivity can be falling (the so-called ‘price recovery factor’) Thus, the key characteristics of productivity at the enterprise level are that it is expressed in physical units, in quantities; at the level of the branch, sector and economy overall economic units must be used which take account both of deflated money and purchasing power parities, i.e. the conversion of different currencies.

Similar to its association with profitability, productivity is a significant component of competitiveness, the level of which is also determined by the prevailing national level of prices and costs. However, unlike productivity, these costs and prices are to all intents and purposes outside the influence of the individual enterprise.

‘green’  
productivity

limits

profitability

competitiveness

Productivity does not depend on monetary fluctuations which can lead to windfall gains (and losses) by intermediaries and speculators in future developments; rather, it requires perseverance, being a continuous process of doing things better today than yesterday and tomorrow better than today. And the inevitable driver behind this process is ‘competition’ in its many forms.

The EANPC and its members strive to pursue a ‘holistic concept’ of productivity. The input side covers not only the volume of labour but the quality and quantity of all resources—including the natural, infrastructural and organisational—which enterprises use to achieve their results. In this way a whole range of options are opened up for the efficient design of performance processes. On the output side of the production process it has to be mentioned that nowadays outputs not only include products and services but also the social and ecological impacts of the production process. The approach of the EANPC and its members covers the whole gamut of measures for fostering productivity focusing on the ‘human factor’. This human factor consists of two notions of capital: on the one hand human capital constituted by the individual skills competencies and attitudes of the employees and on the other social capital, the mutual trust and confidence, the collaboration and cooperation, the spirit of partnership among the labour and management of enterprises. Thus, human factor can be a valuable element in enterprise competitiveness only when it consists of two equally important aspects: high quality human resources and good organisation of people’s work. Improving the productivity of the enterprise and its supply chain results from how this social capital (organisation of work) enables the enterprise to make effective use of its human capital to make the most of its economic capital. This social capital facilitates innovation and change for productivity and competitiveness. There are various examples (LINK 1) of enterprises that have managed to optimise the human factor. Measures of particular importance to foster productivity focusing on the human factor include giving more responsibility to employees at the workplace, providing work that sustains health, designing workplaces which require skills and organisations that thrive on individual and collective learning, critically monitoring and using new understanding and knowledge, facilitating cooperation and collaboration between management and labour, etc. In other words, it means taking the ‘high road’ to enhanced performance—improving the quality of the factors of production and the ways in which they are used, having the medium and long term development of the enterprise in mind—rather than the ‘low road’ of unthinkingly economising on the use of the factors of production for the benefit of short-term profit, which is, unfortunately, prevalent in today’s world.

A broad approach is also taken for recording the results of performance. It is not just figures for turnover, profits and yields which are important, but also the societal benefit of the results from the performance processes, including the benefits for employment, improving working conditions and sustainable development within a shrinking world.

## 4. Concepts related to productivity

As already indicated, a wide variety of factors contribute to productivity development. It is in fact impossible to state, within even broad bands, the relative impacts of these contributing factors. However, all the following contributing factors are important, each interacting with the others, ensuring that productivity is a holistic concept in which changes in one domain have, inevitably though not always predictably nor positively, repercussions on all others.

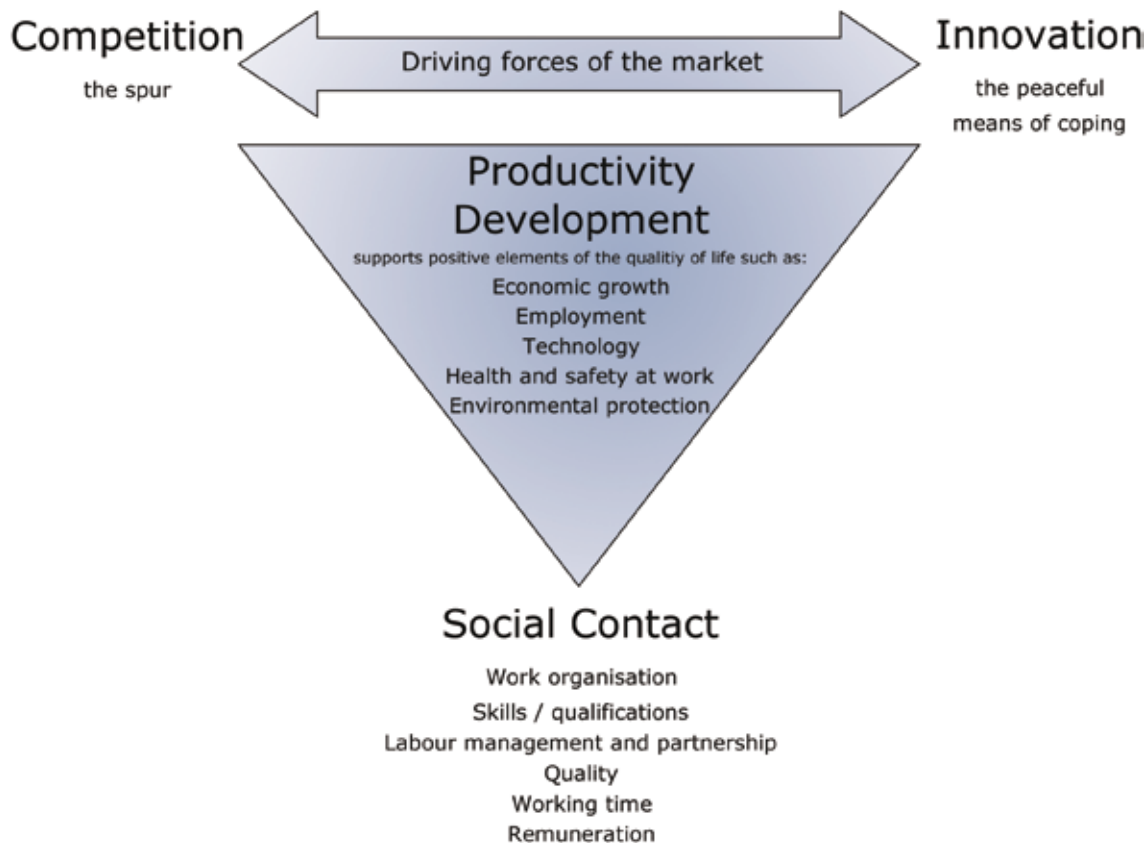


Figure 3: contributing factors to productivity  
Source: Jens Dinesen 2/2 - 1999

### 4.1 Economic growth

Expressed succinctly, economic growth is a state in which the amount of goods and services produced is increasing. Experience shows that the positive development of society depends on economic growth. The dynamics of the economic process lead, through thriving enterprises, to the overall development of society and the economy; however, there is no automatic mechanism ensuring a balance between economic sectors and regions in the wake of structural change. One of the general tasks of economic policy is to try to avoid—or at least alleviate—the deleterious consequences of structural change. In this context the concept of socially sensitive enterprise restructuring (SSER) must be mentioned. Restructuring that helps achieve both long-term competitiveness and

socially sensitive  
enterprise  
restructuring

minimizes social costs at all levels (enterprise, industry, and national) is an issue whose importance is emphasized by all constituents of the ILO: governments, employers and workers. (LINK 2) If this is not achieved, problems arise for the further development of the economy and society. This is the situation in all contemporary societies, representing a challenge for economic and productivity policy. Since most national economies are open systems, economic growth and structural change are not just influenced by the national input structures but also by the global economic situation. In this respect the policies of the European Union should be mentioned. On the one hand, its importance as a determinant of economic/industry policy is growing all the time; on the other, it is currently deliberating whether in the future it should be more or less interventionist—'picking winners', despite this having almost always led to costly failures nationally in the past.

## **4.2 Competition and quality**

Competition is the driving force behind the development of productivity and growth as every enterprise strives to enhance its position on the sales and procurement markets. On the other hand, strong productivity increases and economic growth intensify competition. Nor is it just enterprises but also national economies which compete with one another.

In economic theory enterprises and economies are presumed to be confronted with equal competitive conditions. In the real world, competitive conditions differ very much from one national economy to another and among individual enterprises. Thus, for instance, circumstances are clearly not equal as regards natural resources, the economic and societal infrastructure and the size and qualitative structures of the workforce.

Moreover, differences in size between enterprises and national economies have, at least until recently, been seen to represent unequal competitive conditions. Certainly, large enterprises can bring to bear a completely different market power on the procurement and sales markets; and because of their size, they often draw on other resources for coping with temporary crises than are available to smaller firms. Similarly, developed economies with large domestic markets and strong positions in foreign markets might be better equipped to withstand competitive pressures than smaller economies. But Europe now has a nearly complete 'common market' of some 330 million consumers. And the fact that new (small) firms create the bulk of jobs has led to a growing realisation that countries' futures will be determined not by size but by enterprise and entrepreneurship; this in turn has brought to the fore the links between productivity and entrepreneurship.

Although costs remain significant in determining the outcome of competition, 'quality' in all its aspects continues to assume ever growing importance. For quality is defined as a product or service's precise 'fitness for use' and its design customised to meet the needs of the client over its total life-span. These—and the associated lower operating costs of getting things right, first time—are far more important to the discerning purchaser than

competitive  
conditions

size

quality

the initial cost. In fact, ‘productivity’ and ‘quality’ are two sides of the same coin which, though sometimes looking different, are inseparable in the long run. Since quality stresses customer satisfaction, its enhancement is likely to enable sales and production volumes to be increased, thus facilitating productivity increases.

Quality is also concerned with the elimination of waste, before, during and after the consumption of a good or service. This forcefully contributes to improving the productivity of the production process in ways which are environmentally sustainable.

Productivity without quality is as meaningless as quality without productivity. In this perspective the vital role that workers play in improving quality, individually and in teams, has to be stressed. Moreover, improving the organisation of people’s work (social capital) supports and fosters this role of workers.

### **4.3 Innovation and technology**

Innovation—as a reaction to competition—is the dynamic element of production and growth. Without innovation, further development by enterprises, the economy overall and society is stymied; without innovation there are also no really sustainable productivity developments.

Innovation is driven by competition and is strengthened by creativity. Successful innovation is mostly market-driven, but successful technology-push innovation also depends on the market. Technology is one of the main contributing factors to productivity development; but on its own it does not make the enterprise or organisation competitive. Indeed, without carefully considering the ‘human factor’ as well as the organisational structure and culture, the adoption of new technology in innovation is doomed to failure. Good communication and cooperation are key prerequisites of this concertation with the human factor. Workers play a key role in product and process innovation and technology upgrading (human capital), provided that workers’ participation and organisation of the work (social capital) are optimally applied (LINK 3). Yet many organisations underestimate the need for participative preparation and for training to ensure that technological change within the organisation is smooth from both the economic and safety and health viewpoints.

The potential of technology to stimulate innovative products, services and processes has remained high, as is shown by the continuing rush of developments in such domains as information technology, bio-technology, communications and pharmaceuticals. What is less often realised is that much of the potential of innovation is lost when too much focus is put on technical ideas and research and the rest of the innovation process is neglected and badly managed. This brings out the importance of such factors as: carefully planning the dissemination process; designing the overall organisation as well as the individual workplaces to foster continuous improvement; developing cultures which are supportive of

waste

innovation

competition  
creativity

technology

continuous change; and ensuring the availability of adequate capital to enable management to concentrate on the innovation and continuous change processes, rather than spending excessive time worrying about how to pay the next invoice. Thus, any major technological or organisational change should be well prepared and followed by a period of continuous improvement, allowing the organisation to adjust step-wise to the new situation.

speed of  
innovation

The speed of innovation is important for developing productivity and growth. However, there are no benchmarks in this field—‘more haste’ can indeed mean ‘less speed’ if there is insufficient human factor involvement in innovation. The overall trend, both at the enterprise and macro-economic level, for the speed of innovation to be accelerating has given rise in part to the problems of structural change of the western industrialised countries over the past 20 years. ‘Time’ remains a relatively neglected factor for productivity development.

at every level

Innovation must lead to new products and services, to enhanced performance processes and to renewal of the economy overall. This means that innovation must not be confined to matters of new production technology but must also lead to new products and services and contribute to improving work organisation and working conditions.

#### **4.4 Employment**

increase

On the level of the economy overall, increased productivity has, for the past two centuries, gone hand in hand with increased employment: the countries with the best rates and levels of productivity performance are those which have generated and sustained the best levels and rates of employment increase.

downsizing?

However, at the enterprise level what appears to be good labour productivity performance has often been achieved either through a reduced workforce doing the work of previously more numerous colleagues or—more frequently—through functions previously performed by the workforce now being carried out by units outside the enterprise (outsourcing to lower wage countries or companies). Furthermore, in the past two decades, low (by previous standards) economic growth and productivity performance have had negative impacts on employment—jobs disappear and there is under-employment of the available potential. In addition to this as innovation and customer value become more important factors for productivity in a globalised economy, an enterprise whose productivity strategy aims primarily or exclusively at cutting back on labour as an input may find itself less competitive. Recent research findings show that downsizing employees does not lead to long-term improvements in the quality of products or services, nor to sustainable productivity improvement.

productivity  
paradox

Moreover, with the growth of the services’ society, the relationship between measured productivity development and employment has become less clear. The so-called ‘productivity paradox’ appears to indicate that the high rate of employment increase

in services has been accompanied by a slowdown in the rate of productivity growth. However, some analysts claim that the problem is one of measurement: the tools available have been unable to capture the productivity advances which have been significant and have helped generate increased services' employment.

What is clear for the future is that in order to combine the development of productivity and economic growth in such a way that they generate positive employment impacts, new approaches to sharing productivity advance must be developed and implemented in the economy. One important—albeit only one—aspect in this respect is the relationship between productivity development and financial rewards.

In the countries of the member organisations of the EANPC, unemployment is a considerable challenge for economic policy. Member organisations contribute to tackling this issue in two ways: on the one hand, through measures (already mentioned) to foster productivity, competition, growth and innovation aimed at strengthening enterprises and thereby to making jobs more secure, even in an era in which the percentage of those employed having lifelong employment is declining; and, on the other, they can develop and use innovative approaches to increasing employment, notably in the flexible management of the entire range of the factors of production: knowledge, labour, capital, materials, time, and space. However studies show that the productivity and the competitiveness achieved by all these measures is short lived if the restructuring is not managed properly. Socially sensitive enterprise restructuring could overcome this risk. Examples (LINK 1) from practice show that there are enterprises which have successfully adopted socially sensitive enterprise restructuring principles.

#### **4.5 Work organisation and learning organisations**

The way in which work is designed—from the physical lay-out of the individual workplace through to the way in which the enterprise is 'articulated' with its environment, notably its suppliers and customers—is a significant source of productivity development. And, on the other hand, the quality of work organisation is influenced by a number of factors, one of which is productivity development. Particularly as, over the past few years, the rate of economic growth has declined, competition between enterprises has intensified and the pace of economic structural change has quickened, the quality of work organisation has become more important as a factor influencing productivity development. In this respect, new forms of employment, such as part-time work, project and tele-working, virtual and mobile work play as important a role as forms of work in which the workforce has more freedom of initiative, enhanced skills and greater responsibility for their collective work (such as team-working, one-off projects and working time arrangements). The exponential growth of applications information and communication technology has enabled cooperation between people on distance through virtual teams, in cyberspace: a worker is able to work independent of place and time and communicate with colleagues

the  
unemployment  
challenge

work design

new forms of  
employment

and customers. There are four forms of virtual work: Mobile work; Virtual teams; Shared services, and Virtual networks, of which mobile work is the most popular. Virtual work can increase productivity but research has shown that mobile work for instance may lead to increasing work load and hence work stress.

Thus not all changes have been for the better: not only work intensification may occur because of innovation but also de-skilling has continued to occur as new products and processes replace those existing. Enterprises have reduced their hierarchical levels, decentralised responsibility ('empowered' their workforces) and sought greater flexibility in their organisation. These and other change processes have been driven forward by a range of organisational design and management approaches. These include programmes for improving the linkages between living and working conditions—family life is clearly a 'productivity factor' for mothers, but also for a growing number of fathers—as well as a variety of management philosophies such as socio-technical systems design, lean production, the learning organisation, just-in-time management, business process re-engineering, and total quality management.

Moreover, the skills' demands on the workforce have increased. It is not just that new skills have to be learned, but also that old skills have in some cases to be renewed and, in others, to be unlearned. The productivity challenge is to ensure that the greatest possible proportion of the existing workforce is willing and able, to continuously upgrade its individual and collective skills. And this can only be achieved by a judicious blend of learning off-the-job and on-the-job. To promote such synergy, work must be designed in such a way that it is conducive to the application of the more theoretical off-the-job training. Thus does 'the quality of work organisation' depend on both structures (the actual shape of the organisation) and processes (the changing skills—both collective and individual—which people actually use to satisfy their customer). The important contribution of workers in innovating and developing the work organisation and organisational learning is increasingly recognised. Effective communication channels can identify early problems in work design and more genuinely empower workers to take on more responsibilities as work becomes more decentralised.

#### **4.6 Safety and health and working conditions**

Economic success and corporate competitiveness are of prime importance both for the enterprise and its workforce. For development which is future-orientated, enterprises increasingly need qualified, motivated and efficient workers who are able and willing to contribute actively to technical and organisational innovations.

Healthy workers working in healthy working conditions are thus an important precondition for the enterprise to work smoothly and productively. An enterprise's economic goals do not—or should not—conflict with its goals relating to working conditions; rather, they complement each other. Unfortunately, working conditions show

new management  
approaches

contribution of  
workers

health of workers  
a productivity  
factor

that the health of the workforce is not always sufficiently recognised as a productivity factor. Certainly there are now fewer 'classical' health risks such as those brought about by heavy work or work in bad weather conditions; but there has been an upsurge in burdens such as work intensification, time pressure, greater responsibility without balancing authority and high concentration or, on the other side, monotony and social isolation. These burdens show up as health disorders (such as musculo-skeletal disorders), stress and the burn-out syndrome, increased absenteeism and lack of motivation.

In a broader meaning, safety and health at work extends into the management fields of working time organisation, training and learning, work design or individual career development. Sensibly designed, all such elements can have positive impacts on the health of the workforce. Moreover the workforce itself, by labour-management committees, can contribute to improving safety and health conditions on their own workplace.

#### **4.7 Skills/qualifications**

In times of rapid economic and structural change, technological developments, continuously changing markets and tougher national and international competition, an enterprise's productivity and efficiency depend increasingly on the deployment of a highly skilled workforce. In a situation in which enterprises world-wide operate at a technologically similar level, high skills have become a key competitive factor for productivity and economic efficiency. Efficiency and motivation, knowledge, skills and key qualifications (such as flexibility, cost-awareness, client orientation, meeting deadlines) need to be developed and used in all areas and for all jobs.

This can only be achieved in enterprises which design and implement coherent policies and practices to enable their workforce to learn continuously and to develop company structures which enable the workforce to better meet the needs of their customers.

There is a clear connection between the level of qualifications of the workforce and productivity development. On the one hand, working productively in the present technological, economic and organisational conditions prevailing within the Member States of the European Union demands a broadly skilled workforce. On the other, the existing skills and qualifications of the workforce limit the possibilities for the enterprise to react to the changing demands of the market. Thus, from an economic viewpoint, 'human resources' can no longer be understood as an elastic, technically substitutable factor, but rather a limitational factor on productivity, innovation and economic success. That means that it takes time for an employee to become qualified for his specific job in order to be optimally productive. Through on the job training and through encouraging colleagues to participate in more formal training to put that training in use workers disseminate knowledge and skills. Studies show that this informal human resource development plays a large role in upgrading the skills of workers. Hence workers are essential in promoting a culture of upgrading of skills in the workplace.

a culture and structures to develop skills

#### **4.8 Environmental protection**

Paying due attention to the environmental protection aspects of production and product development—'Green Productivity'—is no longer a luxury; it is not something which can be afforded only by large enterprises in good times, by the producers of ecological niche products or by supposedly 'over-regulated' economies, such as the German. For environmental protection and know-how of environmentally-friendly production and work processes is an important factor to competitiveness. The yardstick for this is no longer the existence of legal requirements and limits, but rather the knowledge and availability of technology which protects the environment. These today constitute an important technological asset, as is indicated by the environmental initiatives of Japanese enterprises (hugely supported by government), the market-leadership positions of American enterprises which produce environmentally-friendly goods, and European design which builds into a complex product ease of dismantlement after its useful life in order to maintain environmental standards.

'Green productivity' also impacts favourably on other factors contributing to productivity development. Linking environmental management opportunities with safety and health at work can be a significant contribution to improving working conditions since enterprises' internal and external environments are very closely associated. Thus, it opens up good economic development opportunities for SMEs. Finally the important role that workers can play in identifying and eliminating waste and monitoring green production strategies is to be stressed.

#### **4.9 Social partnership**

The significance of the lone entrepreneur as a driving force of economic development is undeniable: the individual ruggedly taking his or her idea from conception through innovation into successfully marketed goods, services or processes. Indeed, all European countries need to foster the spirit of entrepreneurship.

However, productivity development is increasingly dependent on cooperation and team-working. For advance in any working community can only be achieved by the willing involvement of all concerned, pulling together towards mutually accepted ends.

Such 'social partnership' has been the very basis of EANPC member organisations. For they (or their predecessors) were constituted with the direct involvement of governments, employer bodies and trade unions who see them as actors in significant areas of overlapping interests: the pursuit of socio-economic change (notably in the eight areas already discussed), deliberated in advance, and flanked by measures aimed at ensuring the continuing employability of those who are likely to suffer from the change in question. Partnership can take many forms ranging from working agreements at the national and regional levels (with various pacts having been worked out by the 'social partners') down to the enterprise, plant and work-groups levels, with the growing importance of 'value

chains’. What the co-operative (rather than confrontational) processes might lose in rapidity of decision-taking they gain through the committed backing and understanding of all parties. Partnership helps to build social capital on all levels in the enterprise. We have seen that social capital together with human capital constitute the human factor, essential to productivity improvement. Studies show that there is a significant correlation between an enterprise’s willingness and experience with partnership with its own workers and its success in developing key partnerships in alliances, joint ventures and partnerships in its value chain. (LINK 3).

And the whole demonstrates the continuity of the original ‘productivity movement’ of the European Productivity Agency which defined productivity as *a state of mind, knowing that what you do today is an improvement on yesterday, and striving to make tomorrow better still.*

## 5. Actions to be taken by EANPC members

deliver the  
message

This Memorandum has been unable to keep the main related factors of productivity development in separate, watertight compartments. Nor would such an approach, even were it to have been possible, be desirable: for productivity development is holistic, driven by competition and facilitated by the factors enumerated; and

*“without productivity development, there can be no value creation and no new and sustainable jobs.”*

It is the task of the EANPC members to deliver this message in their own countries. They have to take into account that the main stakeholders have different views on productivity. These differences can be explained from the effects productivity can have on different levels of society. What is good on the national level may be bad on the sectoral or individual level. Policy makers, labour unions, employers' organisations and SMEs all see distinct benefits with regard to productivity growth. The negative effects of productivity may be mitigated by policy makers, employers' organisations and labour unions by making the workforce more flexible and better educated. The EANPC can play an important role in facilitating these institutions. EANPC member organisations contribute, at different times and in different ways through government initiatives, to the development of economic growth, helping to raise income and increase economic and social resources which can be invested for the general development of society.

As experts in the field of productivity and economic development, member organisations can, each in its own country, offer public institutions, stakeholder organisations and enterprises support within the framework of a 'high road' to economic policy and productivity policy which emphasises the quality and innovation of the outputs and processes, rather than just cost-cutting on the side of the inputs. This support consists of:

1. Through the close linkage between innovation and the development of productivity and economic growth, EANPC member organisations play an important role in the innovation process. In particular, they inform SMEs of the opportunities and risks relating to product and process innovation and help them in the design of innovation processes. They also contribute to enhanced transfer of know-how between research and enterprises and to defining the goals for the state's innovation and technology policy.
2. EANPC member organisations contribute both on the level of their national economies as well as that of the individual enterprise to reducing competitive inequalities through actions to empower small and medium-sized companies (SMEs). Thus, they make their knowledge of technological progress, managerial concepts, learning, etc. available to SMEs. As partners of state-supported programmes for SMEs, they provide help for self-help. In this way they can optimise the search and information behaviour of SMEs as a precondition for corporate decision-making. Moreover, in various business areas they organise and accompany co-operation between enterprises and in this way contribute to

SMEs' economies of scale.

**3.** Furthermore the EANPC represents in this respect one important network for transferring know-how and information to and among enterprises, countries and international organisations. Different countries have had different experiences with organisational processes and their design at the enterprise and sectoral levels. It is important to collect, exchange and evaluate these experiences for a variety of reasons: to avoid making the same mistakes twice; to describe good practice examples; to give advice on and inspiration to designing the processes; to make the competition which enterprises—particularly SMEs—are facing more transparent; and to contribute to ensuring that enterprises do not become locked into work and enterprise structures which cannot meet the current and emerging conditions of international competition.

**4.** In addition member organisations, through their consulting activities, help to bring in innovative and flexible company structures which contribute to the creation of additional employment opportunities; they also foster new fields of employment; by relating further training to company development, they enhance the continuing employability of individuals; they support sectoral and vocational mobility; and they support start-ups and the development of innovative products and services.

**5.** On account of the tasks assigned to them, EANPC member organisations serve as an effective link between economic policy and labour market policy measures at the level of the enterprise. Thus, through its members, the EANPC can contribute to the implementation at the national level of the employment policy goals of international organisations.

**6.** Improved working conditions, including safety and health at work and a healthy workforce, are very important for productivity development. The EANPC together with its members is striving, through information meetings and consulting, to bring out the economic significance—at both the macro and micro levels—of working conditions and to develop measures for introducing more approaches in this area in more companies and organisations. This is not just beneficial to the workforce, but is also a contribution to fair competition between enterprises and economies.

**7.** Moreover it is an important task for the EANPC and its member organisations is to show entrepreneurs, managers and corporate stakeholders that workforce skills and qualifications are an important element of productivity development and a prime factor of competitiveness. They must bring out that enhancing skills is not just a concern of basic and vocational training policy, but also an important constituent of productivity policy and that it hence needs to be embedded in an organisation conducive to change and supportive of learning. All productivity improvement programmes fail if the skills required for their implementation are not available.

**8.** On the national level it is particularly important for EANPC member organisations not only to become deeply involved in life-long learning processes, especially in vocational further training, but also to bring out the productivity aspects of skills' learning and application which go beyond the boundaries of the individual enterprise. A key element in this respect is to strive for greater portability of qualifications and skills. For the more company-specific are the skills, the less they will be adaptable to the needs of other companies should the individual need or want to change to another enterprise.

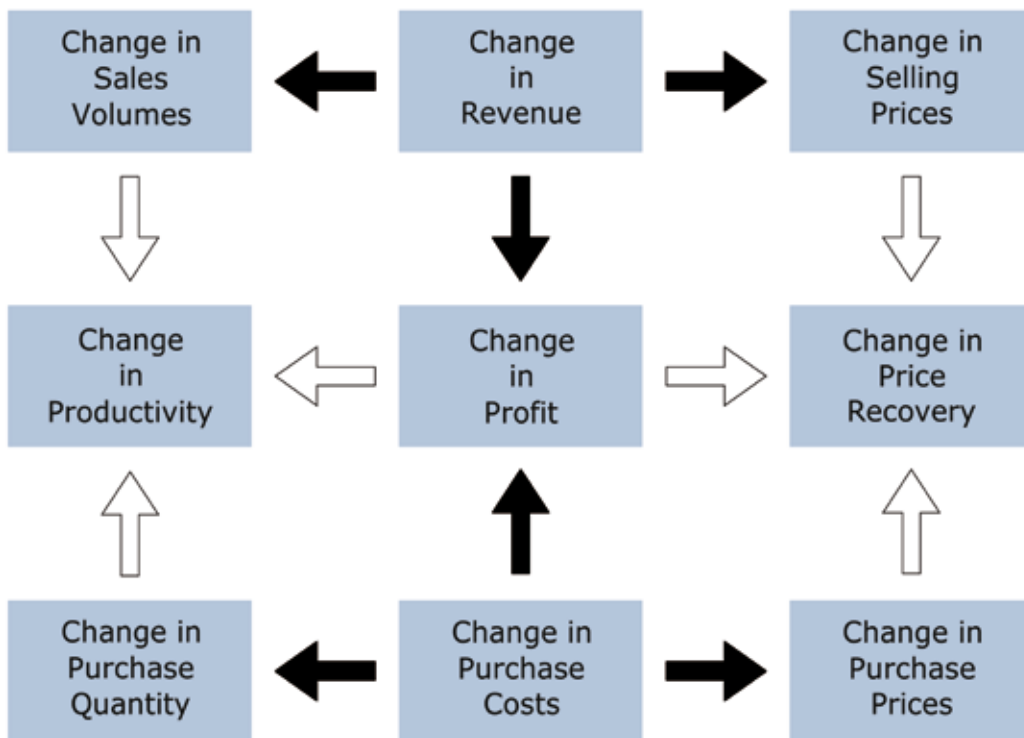
**9.** Productivity measurement is an important tool to monitor productivity development. However research institutes in the EU which measure productivity use different standards and thus produce various productivity figures. The present chaos in existing productivity figures in the EU does not facilitate a sound policy on productivity development.

The EANPC is the most suitable organisation to collect and present unambiguous EU productivity figures.

### **The Contribution of Productivity to Profits**

Productivity accounting system rest on isolating the quantity and price components of monetary value changes for both revenues and costs. South Africa’s NPI has extended traditional ratio analysis by isolating the productivity and price changes that drive profit change and measuring total productivity in both percentage and financial terms. The basic concept is explained simply by means of a nine box diagram:

Sources of Profit Change



The centre column represents the conventional financial accounting definition of profits as the difference between revenues and costs. To increase profits, revenue must increase faster than costs.

However, corporate revenues and costs comprise various controllable and uncontrollable factors. Merely to monitor revenue and cost changes does not provide knowledge about the interaction of these various factors —interactions that are ultimately translated into the bottom line. Nevertheless, basic accounting information can be used to gain insight into precisely what is driving profits.

Revenue can change only as the result of changes in sales quantities or of changes in selling prices as depicted by the top row. Similarly, costs and expenses will only change when either the volume of resources used or their purchase prices changes, as shown by the bottom row.

The left-hand column then identifies productivity as the ratio between product quantity (output) and resource quantity (input). A productivity level exists for each resource contributing to the business (thus, labour productivity is only one of many components of total productivity). It is now possible to show directly the effect of productivity change on corporate profits. Furthermore, it is clear that if all other factors are held constant, productivity becomes the only source of profit growth.



The **European Association of National Productivity Centres** was established in 1966 “to facilitate and increase exchanges of information and experiences, and arrange co-operation among participating bodies”. Its President (2000-2007) is Mr. Peter Rehnström (TSR, Finland) and its Secretary General is Dr. S. Moors (DiOVA, Belgium)

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