

The production and destruction of individual competence: the role of vocational experience

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SUMMARY

This article presents the results of research into the impact on individual skill levels of the variables traditionally represented by human capital. The discussion is centred around the way in which education and vocational experience contribute to the process of producing useful skills in the job market or, conversely, of making them obsolete.

The data comes from a survey of five banks in which we asked supervisors to assess the skills of 600 employees (counter staff and customer managers). It is a hetero-assessment based on a list of skills and behaviours.

The central theme of this article is to draw attention to the process of the invalidation of acquired knowledge which individuals can be faced with and the role which banks accord to the two sources of human capital. The complementarity or substitution of sources of skills acquisition is thus proposed on a case-by-case basis.

Key words

Education, learning, labour market, human resource management, economics of education, quality of education

Introduction

In economics, the theme of skills is quite widely addressed by the theory of human capital, especially where it seeks to explain stylised facts of the labour market such as better salaries for the better educated. The notion of the 'productive value' of education, inspired by Becker (1975)

(1) and developed by the human capital model, indicates that education contributes to the acquisition of productive capacity. For his part, Mincer (1993) (2) puts the emphasis on post-school investment, supposing that individuals acquire productive capacity after their formal education, with vocational experience an important source of acquiring skills.

It still needs to be understood how education and vocational experience contribute to the process of producing useful skills or, conversely, to making them obsolete. We wish to discuss which are the skills produced by the school and/or by businesses through experience and highlight the process whereby the acquired knowledge of the oldest individuals is 'invalidated' as a result of economic and technological development.

Using empirical research data into the production and valorisation of skills in the banking sector, we study the impact of human capital variables on individual skill levels. The data comes from a survey of five banks in which we asked supervisors to assess the skills of 600 employees (3) (counter staff and customer managers). It is a assessment based on a list of 30 skills and behaviours.

Our approach is structured into three parts. Firstly we have to take into account the propositions of human capital theory in order to understand the role of vocational experience in the employment market. Secondly, we look synthetically at the transformation of jobs and skills in the banking sector. Thirdly, we present some of the results which enable us to discuss this process of the construction/destruction of individual skills and subsequently, the search by banks for young, graduate staff. Can we talk in terms of the destruction or rather about the non-use of acquired skills? The reply to this question depends on the analytical reference framework chosen, an economy of conventions or an economy of education.

1. The theory of human capital and the production of skills

In this section, we present the theoretical contributions, together with the limitations of the neo-classical approach to human capital, in order to discuss the productive value of vocational experience.

1.1 Vocational experience and the human capital model

When it first appeared, the notion of human capital related to various individual investments (Schultz, 1961). The pioneering research of Becker and Mincer sought to examine individual investment in education and

(1) Second edition

(2) This is a reprint of the 1974 edition

(3) The survey was conducted during 2001 on a sample of 1100 employees in 120 branches, situated in various locations - Lisbon, Porto, Viseu, Évora and Faro, and coming under the three biggest financial groups in Portugal. The final sample obtained was 600 employees.

vocational experience to explain the differences in salaries observed in the employment market.

Without doubt, the notion of human capital does not merely represent a break with the previously held neo-classical view of the homogeneity of work, but also represents a new way of looking at the factor of labour. In 1998, the OECD recognised the potential of the concept of human capital, which 'forcefully' highlights the importance of the human factor in an economy based on knowledge and skills (OECD, 1998).

Indeed, human capital theorists stressed the influence of initial training and vocational experience on the growth in individual productivity which results from the productive capacity acquired from these two sources of skills.

In a word, Becker and Mincer theorised the idea that workers are heterogeneous by virtue of differences in their useful productive capacity on the labour market.

In Human Capital, human capital refers in particular to education. Education is an investment, be it for the individual or for society, because it enables skills to be acquired which make individuals more productive. For Mincer, Becker's schooling model constitutes a primitive configuration of the salary function in human capital theory. He introduces the idea of post-school investment, notably investment in vocational training

It is through this approach in terms of investment that Mincer admits that individuals acquire productive capacity after formal education, vocational experience being an important source of skills acquisition. Nevertheless, in his opinion, these investments are not directly observable. What can be observed and quantified are the salary profiles. These illustrate the variation in salaries by age and their configuration suggests that investment is greater at the start of a salary career and less intense later on.

1.2 Criticisms of Mincer's operational concept

For Mincer, the operational concept of vocational experience is a potential experience and this contribution makes him somewhat open to criticism, especially as Mincerian vocational experience is a homogenous experience measured by years of vocational life. During the nineties, economists and sociologists went back to studying vocational experience and sought to capture the heterogeneity of the paths and of the productive capacity acquired. They also sought to highlight the obsolescence of the skills acquired from vocational experience.

On the basis of the hypothesis that 'enterprises seek to minimise the cost of adapting', Cart and Toutain propose studying the role of vocational experience in the individual's ability to adapt (Cart and Toutin, 1998, p. 137). For the authors, vocational experience enables individuals to acquire skills, the latter being determined by the variability and elasticity of the jobs. Thus, the variation in vocational activity presents an essential role in the process of constructing skills (Cart and Toutin, 1998).

Alongside this line of research, Ballot and Piatecki (1996) ask about the

lasting validity of acquired vocational experience. In their discussion on the hedging which enterprises do between promotion and external recruitment to fill the more senior hierarchical positions, Ballot and Piatecki reject the idea that vocational experience is an indicator of the quality of labour. The authors put forward two arguments: firstly, that changes in vocational activity help to devalue experience; secondly, that in a context of technological development, training and experience become progressively obsolete. In this context, recently trained generations acquire new advantages (Ballot and Piatecki, 1996).

It is important to stress that the contributions of Cart and Toutin (1998) and Ballot and Piatecki (1996) related, above all, to heterogeneity and the complexity of vocational experience as a source of acquiring skills. However, they did not describe the skills which experience produces or makes obsolete. We are, therefore, a long way from the problem of the current role of vocational experience in the production or obsolescence of skills. What exactly are the skills whose production is determined by vocational experience? This description of the sources of producing skills is the subject of an empirical analysis which we will develop later. Let us consider for the moment the job trends in the banking sector in order to understand the transformation of skills requirements on the part of the banks in the sample.

2. The Portuguese banking sector and the transformation of its jobs

The major changes which banks have undergone comprise a multitude of transformations and constitute an interesting case study for understanding changes in skills requirements. This is why this article is dedicated to examining the principal changes which have taken place in the Portuguese banking sector and how they impact on the composition of labour.

Technological development and market trends have transformed jobs and skills in the banking sector. Without wishing to go into a detailed analysis of these changes, it should be remembered that they have been far reaching (Almeida, 2001) in terms of the increase in the number of jobs and their vocational configuration, as well as in the increase in the number of branches (Costa Pereira (coord.), 1998).

1985 and 1992 are the most important dates in the development of the Portuguese banking sector. The first signals the start of the process of privatisation of the sector, with the creation of a private bank. This process was consolidated by 1992, with the expansion of private banks to the detriment of state-owned banks. This development was linked to the renewal of the economic, technological, organisational and management strategies of the Portuguese banks. In more recent years, the strategy of bank mergers has become stronger, resulting in a concentration on major financial groups.

As regards the composition of labour, it should be stressed that the banks have started a process of reclassifying staff, based on their level of education. Furthermore, for some time, the banking sector has proven to be a sector with high educational qualifications. Thus the Collective Labour Agreement of 1982 specified a minimum of 9 years' education at the time of recruitment and the 1990 Agreement specified secondary level schooling - 11 years' education - as a criterion, even though compulsory schooling in Portugal is currently 9 years.

Some macroeconomic data ⁽⁴⁾ can be useful in helping to describe this movement of qualitative change in labour. Between 1985 and 1992, the proportion of graduate staff responsible for commercial activities increased considerably: the proportion of graduates rose from 4.5 % in 1985 to 8.2 % in 1992 and to 16.5 % in 1998.

In focusing on the recruitment policy ⁽⁵⁾ of banks in Portugal, we find that they favoured applicants with a university qualification, and secondly those with a secondary education qualification. The annual average growth rate (AAGR) of university graduates recruited between 1985 and 1992 is 42 %; it is 36 % in the case of those with a certificate of secondary education. By contrast, during this same period, the AAGR of employees who had completed the period of compulsory education (9 years) is the lowest - 19 %. The importance of university education persists between 1992 and 1998, with an AAGR of its graduate staff of 14 %. Recruitment at other levels goes down, with an AAGR of -3 % in the case of those with secondary school education and -17 % in the case of those who have completed the period of compulsory education.

This desire to reclassify is also proven by the recruitment practices of certain banks in our sample, which are now moving away from the rules set out by the Agreement revised in 1990 and demanding a university qualification for access to banking jobs, rather than a secondary education certificate. Banks also seem to favour training in management and economics as these enable staff to acquire the specific skills more easily. In a word, banks are pursuing a strategy of acquiring general and vocational skills which are partially or wholly produced by education.

The strategy of change is finally being deployed on banking activities which were traditionally structured according to a bureaucratic system and a rigid division between administrative and commercial activities. In a context of internationalisation, development of financial markets and the computerisation of most vocational activities, some jobs have disappeared, others have been transformed and, finally, new jobs have appeared.

⁽⁴⁾ The proportions are calculated on the basis of data from an administrative survey conducted by the Ministry for Employment, which covers all enterprises. It is an exhaustive source of information, entitled *'Quadros de Pessoal'*, which contains information about enterprises and workers, presented in a symmetrical fashion.

⁽⁵⁾ The indicators used for examining the recruitment policy were calculated on the basis of staff with less than one year's service.

The most far-reaching transformation relates to the weakening of the rigid dichotomy between administrative and commercial jobs, i.e. between the 'back-office' and 'front-office'. In fact, the priority given to commercial activities, multitasking and team work has resulted in this dichotomy becoming obsolete, requiring bank employees to have skills which encompass both these types of activity.

Over and above these organisational changes, we must take into account the reconfiguration of the skills of bank staff who are responsible for commercial activities. The main development is asking staff to change from a passive attitude of waiting for the customer to express his needs, to a proactive one of spontaneously approaching customers (Conseil, 1998).

In the same vein, the specialisation of 'commercial' matters is reinforced. It is becoming more frequent for there to be separation between those responsible for specific customers, such as major companies, small and medium-sized companies, public organisations, private individuals. In some banks, staff responsible for commercial activities specialise in a particular business sector, such as property.

In order to meet the challenges presented by these changes, banks seek human resources which have the most appropriate skills. The education system is therefore becoming a crucial source of acquiring the skills which facilitate the ability to learn and to adapt to permanent change.

In their comparative work on European banks, Annadale-Massa and Bertrand (1990) stress the role of the education system in preparing human resources to cope with change.

3. Empirical analysis and discussion of the productive value of vocational experience

In this final part, we concentrate our study on the impact of education and vocational training on the individual skill level. Firstly, we need to present our methodological options and the instrument we have used for gathering information. We will then discuss the empirical results and the discrepancies compared to the contributions of human capital theory.

3.1 The data

In this section, we will present the methodological research options and the main results of the debate on the valorisation of vocational experience or the valorisation of acquired knowledge. In order to relate to this debate, we will test the human capital hypotheses, according to which education and vocational experience contribute to skills production. The 'productive value' of education and vocational experience thus relates to the economic - salary value of the skills acquired. We should also point out that our context is sources of skills production and the valorisation of those sources.

Our analysis is centred on the hetero-assessment of skills. Unlike the methodological options of Green (1998) and Paul (2005), who use the self-

assessment of skills by the employees themselves, our work consisted of asking supervisors to use a skills grid to assess the skills of staff (figure 1).

The methodological option of assessment should be seen in the context of most banks, which have introduced systems for assessing their staff. Normally, supervisors are responsible for assessing the performance and/or skills of their subordinates and this assessment serves as a basis for decisions on matters of salary, profit sharing, promotions, training courses, etc.

Compared to self-assessment, assessment has the advantage that it enables subjectivity to be reduced since the assessor will be in a position to use comparisons between individuals or comparisons with the level of skills expected in any given job.

We should stress that we are seeking to 'reduce' subjectivity and we are aware of the limitations of this. We must bear in mind two limitations here: the stakes of the assessment which the supervisors face (Baraldi et al, 2002); and the availability of the assessors, who must obtain general information and spend a large amount of time assessing skills.

Box 1

The survey and the skills grid

Our empirical analysis is based on a survey which sought to assess the skills of staff in the banking sector responsible for commercial activities.

We confined the analysis to a sample of counter employees, customer managers and administrative clerks. It does not relate to branch supervisors who are responsible for bank branches and have managerial responsibilities.

We constructed a skills grid using research into employees in the banking sector. In other words, we did not analyse the jobs but instead made use of national and European research into the banking sector, and also used grids specific to each of the banks.

This grid was then validated by interlocutors from the sample banks, and in particular by the human resource managers and branch managers.

The questionnaire relates to each member of staff at a bank branch and refers to the assessment by the supervisor based on the skills grid. For 51.7 % of the employees assessed, the questionnaires were completed by the supervisors, in our presence; for 23.3 % the supervisors completed the questionnaires without our being present and after presentation of the survey; and 25 % were completed without any presentation, and in our absence.

The survey was conducted in the course of 2001 on a sample of 1100 staff at 120 points of sale, situated in various locations - Lisbon, Porto, Viseu, Évora and Faro - and coming under the three biggest financial groups in Portugal. In the end, the sample obtained included 600 staff.

We also examined the sector and the sample banks using the qualitative and quantitative information available. Thus we analysed the banks' internal documents, such as their assessment tools and job and skills studies. We interviewed the human resource managers and several branch managers in order to obtain information about policies on recruitment, training, pay, reductions in staff numbers, promotion, etc.

As it is a subjective measure of the individual skill level which could also be confused with individual performance (Eustache, 1996), we can assume that the assessment can be biased by certain characteristics of the assessors, without being able to specify this bias. However, this subjectivity is not really invalidating in as much as it forms the basis of the assessment of the performances of staff and their use by the hierarchy.

Once this assessment had been carried out, we were able to analyse the various skills levels of the staff from the sample banks, through their genesis and their valorisation ⁽⁶⁾.

3.2 Education and skills

Our proposal is to test whether the education system and the production system are alternative or complementary sources in the process of producing skills. In order to do this, we use a regression model which, for each pre-defined skill, enables us to identify the principal sources, linked to the job offer. The model, inspired by Heijke and Ramaekers (1998), follows the following structure:

$$c_{ai} = b_0 + \sum_{j=1}^n b_j f_{ji} + e_i$$

where the skill level (a) of the individual (i) is a linear function of individual characteristics, such as education, vocational experience, years' service with the bank and sex. Education and vocational experience are analysed according to the propositions of the human capital theorists: the number of years' education and the number of years' experience. Vocational experience is equal to age less the years' education less age upon starting education.

In the table below, we only show the skills for which education has a positive effect and/or vocational experience a negative influence⁽⁷⁾.

The results presented in table 1 indicate the positive or negative impact of human capital variables on the individual skill levels of bank staff. Thus, the positive signal associated with education leads to the conclusion that it enables skills to be acquired which are recognised by supervisors. The assessment made by the supervisors shows that, during their vocational activities, staff call upon skills which they have acquired, partially or entirely, within the education system.

Education makes a highly diversified contribution to the production of skills. It has a positive and strong influence over theoretical knowledge, as might be expected, but cannot be enough in a knowledge-based society

⁽⁶⁾ As regards the analysis of the econometric model of acquisition and valorisation with the variables of the supply and demand of skills, see Suleman, 2004, on the IREDU site, www.u-bourgogne.fr/IREDU, where we also looked at the certain banks which present higher skills levels. The open question is as follows: do banks facilitate or prevent the impact of the variables of demand, notably the job occupied and the bank.

⁽⁷⁾ For regression results see appendix 1.

Table 1: The impact of human capital variables on the individual skill level

Type of skills	Skills used in the survey	Education	Experience
Theoretical knowledge	General technical knowledge	+	
	Specific technical knowledge	+	
	Knowledge of foreign languages	+	-
Strategic/specific skills	Negotiating skills		-
	Skills of persuasion		-
	Perseverance and goal-orientation		-
	Customer-orientation		-
	Understanding the bank's strategy	+	-
Organisational skills	Ability to work independently	+	
	Ability to take responsibility	+	
	Receptiveness to learning		-
	Effort in learning		-
	Adaptability		-
	Ability to innovate		-
Technical ability	Planning and organising work		-
	Using computer systems		-
Cognitive skills	Analytical skills	+	-
	Selecting and processing information	+	-
	Problem-solving skills		-
	Ability to learn	+	-
	Transferring, transposing knowledge and experience	+	-
	Understanding the specifics of banking		-

Source: Survey 'Valorising skills in the employment market', 2001, in Suleman, 2004

where education has to be geared towards innovation and not just towards the use and reproduction of old knowledge.

The most surprising results are connected with other skills, directly operational in the job, which are influenced by education (table 1).

Education exerts a positive influence over cognitive skills levels, notably the ability to analyse, select and process information, where the estimated coefficients are positive and significant.

Table 2: Average level of behaviour and abilities in terms of developing new skills, by age

Age range	Receptivity to learning	Effort in learning	Ability to learn
Age > 30	3.51	3.37	3.54
Age ≤ 30	4.02	3.90	4.06

Source: Survey 'Valorising skills in the employment market', 2001

Table 3: Average level of behaviour and abilities in terms of developing new skills, by educational level

Age range	Receptivity to learning	Effort in learning	Ability to learn
Compulsory schooling	3.21	3.16	3.26
Secondary education not completed	3.36	3.21	3.40
Secondary education	3.76	3.55	3.73
Tertiary education	4.01	3.94	4.06

Source: Survey 'Valorising skills in the employment market', 2001

Thus we can envisage education as a system which helps to generate infrastructural skills, what Stankiewicz (2002) called 'metaknowledge'. These subsequently help in the learning of more vocational and operational knowledge/abilities. We are thus approaching the relationships of complementarity as suggested by Thurow (1976).

The idea of the 'paradox of the accumulation of human capital' suggested by De Palma and Tchibozo (2004) is corroborated by our results. The paradox illustrates that individuals with higher education levels are the ones who participate most in training measures. In order to test this hypothesis, we continued our analysis by making a distinction between the youngest staff (age ≤ 30) and older staff (age > 30). ⁽⁶⁾

The young employees are the most educated; almost 50 % have a university degree. The tables below show differences in the behaviour and abilities of two groups of staff in terms of developing new skills.

It should therefore be stressed that the better level of education among young people enables them to develop what we can call the learning triptych: ability to learn, receptivity to learning and effort in learning. More pre-

⁽⁶⁾ One might ask, why the 30 age limit? In fact, after numerous tests we have found that age 30 is the boundary after which vocational experience becomes negative in the skills acquisition model.

cisely, more educated people learn more easily but are also more disposed to learning and exhibit proactive behaviour when it comes to seeking training.

The positive signs of education for the ability to work independently and take responsibility show that education contributes to a reduction in supervisory problems and to the development of leadership skills in individuals.

Finally, education favours the acquisition of strategic skills which are specific to banks. It should be added that some of the latter thus acquire strategic/specific skills on the employment market, by profiting from the investment made by the individuals in education. A clear example is the ability to understand banking strategy. Education thus appears to provide tools which facilitate an understanding the new challenges facing banks.

Through this analysis, we can propose explanations for the renewal of labour in the banking sector: the acquisition of key skills which the banks have not yet produced.

We shall examine below the role of vocational experience in the individual skills levels.

3.3 Vocational experience and skills

The negative signs shown in table 1 demonstrate that vocational experience has a negative impact on individual skills levels. These results are surprising and require discussion. In fact, it appears that vocational experience no longer contributes to the acquisition of the productive capacity which is supposed to determine salary. The question now is to ask why experience continues to be valued in the banking sector.

3.3.1 *Some details of the remuneration system in the banking sector*

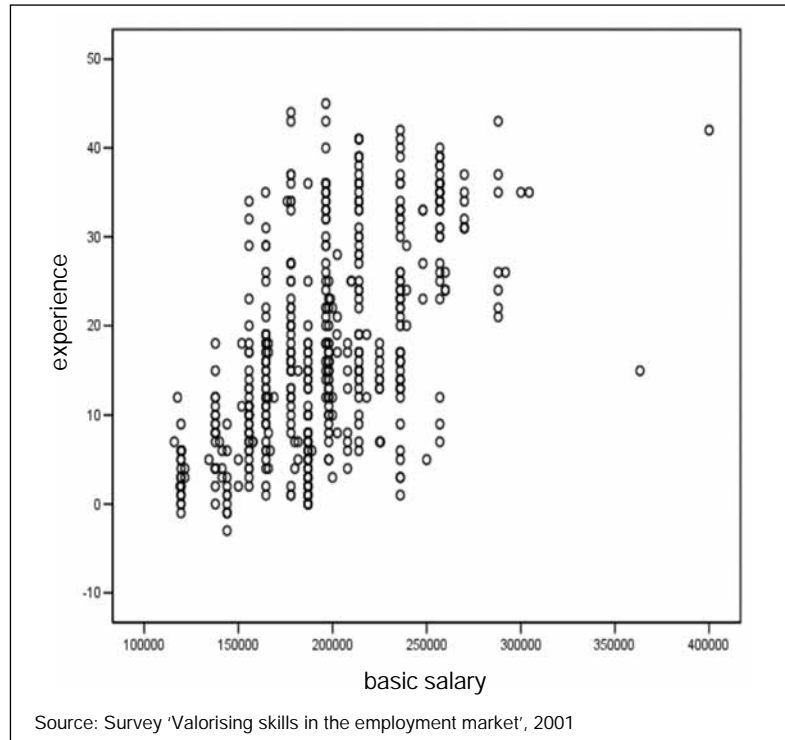
The Collective Labour Agreement (CLA) governs, *inter alia*, the management of jobs, qualifications, salaries and vocational development. Application of the rules relating to remuneration is an aspect of importance for our analysis.

Firstly, the basic salary is determined using salary levels defined in the Agreement. Secondly, these levels include increases in salary as a result of years' service, which means that salary is affected by specific vocational experience. The graph below shows the trend in basic salaries as a function of years of vocational experience.

Following the same line of argument, we can show that the oldest employees are the best paid. By using the previous grouping of employees by age, we were able to confirm that most of the employees aged less than 30 are concentrated in the lowest salary levels (table 4). In our analysis, level 1 corresponds to the aggregation of the lowest levels and level 3 to the highest levels for employees responsible for commercial activities.

By analysing the salary levels set out in the Collective Agreement, we can see that these levels, as highlighted by Reynaud (2001), also repre-

Graph 1



sent a status system in which age, vocational experience, years' service, etc. are all represented.

In short, the salary rules established by the Collective Agreement correspond to the amount of the basic salary, to certain additional salary elements and to growth in salary as a result of either length of service or merit (⁹). The level of remuneration established by the basic salary thus incorporates the influence of vocational experience and length of service which contribute to disconnecting salary, to a large extent, from the acquisition or use of skills. This is why it would appear relevant to use the ob-

Table 4: Proportion of employees by basic salary level

CLA salary level	Age	
	Age > 30	Age ≤ 30
1	37.8 %	62.2 %
2	87.7 %	12.3 %
3	98.0 %	2.0 %

Source: Survey 'Valorising skills in the employment market', 2001

servations of J.D. Reynaud who highlights that recognition through salary of 'skills is probably... much more modest than is hoped...' by researchers (Reynaud, 2001, p. 23).

However, skills are more important for determining other components of individual remuneration, and for the chances of promotion (Suleman, 2004). Profit sharing and chances of promotion are governed by very different logics. Here, the logic of assessed skills is much more marked. Vocational experience constitutes an obstacle to vocational development and does not involve any increase in flexible remuneration. Banks establish new relationships with their employees, asking them for commitments which will be recognised by other salary rules. As Gavini (1998) has pointed out, we are talking here of an enterprise which is an autonomous source of normative production.

3.3.2 *The skills most sensitive to vocational experience*

Let us note above all the negative impact of vocational experience on cognitive skills. We find that the oldest employees show lower levels of cognitive skills which we have classified as infra-structural. This makes the learning of other skills, such as strategic/specific skills, difficult. Stankiewicz considers that 'the ability to learn basic technical knowledge is reduced when metaknowledge is lacking' (Stankiewicz, 2002, p. 9).

We can therefore deduce that relationships of complementarity between skills contribute to a vicious circle and can, irreparably, lead older employees to vocational exclusion.

Compared to the ability to adapt, education favours and vocational experience prevents the acquisition/development of this skill ⁽⁹⁾. Having constructed their skills in a model of stable organisation, document processing (physical) and application of the pre-established rules and procedures, bank employees today need other skills. We would recall the contributions of Cart and Toutin (1998) who highlighted the influence of the variability and the elasticity of activities on the ability to adapt.

To take another aspect: work on codes and symbols requires abstract abilities which are of a very different nature. It is not surprising, therefore, that the older employees show a poor level of ability to use computer systems.

Finally, capacity for and behaviour in respect of training conform to the precepts of the theory of human capital, according to which investment in training goes down with age. Older employees are less available for training and also learn less easily (see table 2).

By referring to several studies by ergonomists into the relationship between age and the ability to learn, Legrand draws attention to the influence

⁽⁹⁾ The Collective Agreement specifies a percentage of employees whose salary must be increased on merit.

⁽¹⁰⁾ Workers aged less than 30 show higher average levels than older workers (average ability to adapt 3.91 compared to 3.45)

of old work habits which 'bring about restrictive mental and physical changes. The result of this is to make it less easy to learn any new tasks in a different organisation' (Legrand, 1998, p. 108).

The result is a cumulative process of obsolescence of certain abilities and obstacles to the acquisition/development of other skills. Vocational experience enabled the acquisition of skills which are no longer useful. We can assume that the experience of such skills becoming obsolete contributes to the destruction of skills.

Does this mean that older employees are not competent? Or, can we infer from this that relationships of complementarity between skills contribute to a vicious circle which, irreparably, leads older employees to vocational exclusion? Will the skills acquired throughout the vocational journey thus be destroyed?

We should stress that competence is a prisoner of the notion of competence used by the enterprise. In other words, it is limited by what the players define and determine as being competence and what the most valid skills are. We must point out, therefore, that the skills grid which represents the central tool in the skills model, is not itself neutral. It incorporates the skills which the enterprises (banks) consider to be the most important in a given context.

We should note that this idea of destruction of skills comes under the definition of skills as a convention, i.e. as a result of a judgement on what competence is (Eymard-Duvernay and Marchal, 1997). Thus the stock of human capital/acquired skills is no longer relevant in certain vocational contexts. The enterprise does not recognise a stock of skills such as this, taking an unfavourable view of such skills. In the analytical context of the economy of conventions, we can admit that this judgement is based on irreversible characteristics, such as age, yet such age, which is linked to vocational experience, contributes to the destruction of skills. However, in the logic of human capital, it is more about a dephasing or discrepancy of skills acquired previously.

These results to some extent contradict those of the human capital theorists (Becker, 1975 and Mincer 1993), of work as a quasi-fixed factor (Oi, 1962) and of internal labour markets (Doeringer and Piore, 1971). All these authors have highlighted the advantage of a durable work relationship, i.e. of experience/length of service, in order to get a return on investments in specific human capital made by the enterprise.

3.3.3 The production and valorisation of vocational experience

These results indicate divergences of interpretation compared to those obtained from Mincer's proposals. Both he and other researchers have highlighted the importance of experience to explain salary differences. We are therefore faced with a paradox: vocational experience is not recognised as a source of producing skills, but it is valorised (Suleman, 2004). This paradox goes back to the salary rules set up by the Collective Agreement which sets the amount of the basic salary, certain additional

salary elements and growth in salary according to either length of service or merit ⁽¹¹⁾.

We must take up this idea and discuss the reasons which justify this production and this valorisation of experience. The systematically negative relationship between vocational experience and almost all other skills can, in fact, highlight four phenomena:

- an obsolescence of the skills of the older employees, these skills having been produced in traditional models of work organisation when the separation between administrative and commercial functions was very marked;
- a generation effect which seems to differentiate between generations of employees in the banking sector: one where there is a preponderance of administrative logic and one dominated by commercial logic and the anticipation of customer needs;
- a competence convention suggesting social and sectorial prejudices as regards older people. In fact, in our observations, interlocutors at banks often highlight the difficulties of older employees in the face of changes, especially technical changes;
- an effect of selection which translates as a lack of vocational development on the part of employees with poor skills levels in low-level jobs - the ports of entry as defined by Doeringer and Piore (1971).

Where the skills required are new, it should be noted that banks look for them outside, notably amongst young graduates. This undoubtedly means that the young generation is better educated than the previous generation. All that leads to a 'time effect' which manifests itself, on the one hand, by the valorisation of education and, on the other, by the refusal to recognise vocational experience as an essential source of acquiring skills.

Does this support the predictions of Mincer? We now need to consider the links between vocational experience and the salary of the individual.

Our empirical results show that vocational experience is worthwhile, i.e. each additional year's experience leads to an increase of 4 % in monthly remuneration (Suleman, 2004). By comparing the results of acquisition/production models with those of models of the valorisation of human capital, there appear to be divergences of interpretation compared to those obtained from Mincer's proposals.

As we have said, whether it is Mincer or most of the researchers propounding the theory of human capital, all highlight the importance of vocational experience to explain salary differences. These result from the role of experience in the acquisition of productive capacity. It would appear, therefore, that the valorisation of experience does not represent a retribution of its role in the production of skills.

Our analysis of the valorisation of skills has also revealed that vocational experience is not crucial for other elements of individual remunera-

⁽¹¹⁾ The Collective Agreement specifies a percentage of employees whose salary must be increased on merit.

tion. For example, it is no longer significant for profit sharing, or for the chances of promotion (Suleman, 2004).

Having identified this 'apparent paradox', we can remember the theoretical contribution of Fragnières (1992) who presents three central notions of the problem of certifying skills:

- certification or formal validation of knowledge or qualifications;
- assessment which depends on judgement and the monitoring of training and the results of training;
- and valorisation which relates to social recognition, by highlighting the economic, social and/or mercantile value of the qualification acquired.

Here, valorisation of the qualification acquired by vocational experience does not lead to validation of the experience acquired/skills. As the judgement is unfavourable, the value of experience would appear to be more social than economic. Economic value is restricted to salary-remuneration, suggesting that it is more a social rule. In other components of individual remuneration (such as profit sharing), experience does not benefit the older bank employees. In this case, the internal normative production of banks becomes more decisive and the logic of competence then represents the will of banks to establish different employment relationships.

On the basis of this analysis, we can ask about the role of vocational experience on the construction as well as on the destruction of individual competence. It is necessary, therefore, to take a brief look at what the economy of the enterprise has contributed, and especially at the theoretical framework of contemporary institutionalism (Eymard-Duvernay, 2004).

In their work on Ways to recruit, Eymard-Duvernay and Marchal (1997) highlighted, as we have already stated, that competence is the result of a judgement as to what competence is. Where it is the result of a judgement, competence is a social construct which enables the creation of a hierarchy of people.

According to this concept of competence, we admit that banks define the way in which their employees are assessed - the skills criteria - and construct a classification of these same employees. However, these criteria change and, according to the reasoning of Eymard-Duvernay, 'people see their classification evolve, for good or bad' (Eymard-Duvernay, 2004, p. 73).

It must also be remembered that the formalisation of skills is, therefore, never completely in tune with the level of competence held by the individual. This incorporates a subjective dimension which arises out of the judgement and criteria, possibly even discriminatory, which is only identifiable with major research costs. The question as to whether the various skills levels which result from the assessment are due to actual differences in skills or are the result of the particular judgement by supervisors, remains unanswered.

Another argument would also appear relevant: the relationship of substitution or complementarity between education and experience. For

Stankiewicz, 'initial training and on-the-job experience are very poor substitutes for producing adaptability' (Stankiewicz, 2002, p. 11). For the author, initial training and 'heavy duty' further training contribute to the production of theoretical-methodological knowledge, whereas experience and 'light-weight' further training contribute to the production of practical knowledge.

For us, this debate must also draw attention to the organisational model, whether qualifying or not, as well as to the renewal of job requirements. However, what we believe to be more important is the way in which banks - institutions - assess the role of education and vocational experience in the production of skills.

4. Conclusion

In this analysis, we have highlighted that economic, technical and organisational changes have resulted in undermining the skills acquired by vocational experience.

In the banking sector, the increasing dilution of functions between administrative and commercial workers or, to use the terminology of the sector, between 'back-office' and 'front-office', with a set of technical and economic changes, have brought about a radical transformation in skills. One of the main consequences of this phenomenon is that, on the one hand, the older workers have seen and are still seeing their skills invalidated and their degree of employability reduced. Vocational experience is no longer synonymous with competence from the point of view of the direct hierarchies of the banks. Perhaps the hypothesis of the obsolescence of skills should not be abandoned, when most workers only have a poor level of skills which are strategic.

However, one can also find reasons for the alternative hypothesis of discriminatory judgement.

Furthermore, vocational experience has a deep-seated effect on the dispersion of basic salary. We must therefore ask ourselves whether there really is any validation and valorisation of acquired knowledge and of skills, or to what extent the valorisation of vocational experience in salary represents more of a constraint for the salary policy of banks than a recognition of the productive value of vocational experience.

There is absolutely no doubt that vocational experience has enabled the construction of skills which have been useful in a technical and organisational context, but it also contributes to the destruction of these very skills, in a new context. This could explain why banks use the educational system to obtain the skills they need. Based on the progression of educational qualifications, banks seek new skills which they have not - yet? - been able to produce themselves.

However, the relationship of complementarity, substitution or even interaction between education and the enterprise, as an entity which permits

the acquisition of experience and, therefore, the construction of skills, is still to be clarified.

It has to be borne in mind that the idea of destroying skills is the result of a theoretical option which refers the definition of competence back to a convention on what competence is. Thus, in the context of the economy of conventions, it would appear relevant to highlight this idea of destruction, as the enterprise judges individual competence favourably or unfavourably. It is a social/organisational construct.

However, in the logic of the economy and education, in particular the theory of human capital, it is more a matter of the dephasing or discrepancy of the skills acquired previously. The role of education, training and the enterprise is therefore taken up in a different way.

Bibliography

- Almeida, Paulo Pereira de. *Banca e bancários em Portugal: diagnóstico e mudança nas relações de trabalho*. Lisbon: Celta Editora, 2001.
- Ballot, Gérard; Piatecki, Cyrille. Le marché interne ouvert: un modèle. in Ballot, Gérard (eds.). *Les marchés internes du travail: de la microéconomie à la macroéconomie*. Paris: PUF, 1996, p. 121-146.
- Baraldi, L. et al. La gestion des compétences: quelle individualisation de la relation salariale? in Brochier, Damien (coord.). *La gestion des compétences: acteurs et pratiques*. Paris: Édition ECONOMICA, 2002, p. 111-135.
- Becker, Gary. *Human Capital*. Chicago and London: The University of Chicago Press, 2^e edition, 1975.
- Bertrand, O.; Noyelle, T. *L'impact des transformations des services financiers sur le travail, les qualifications et la formation*. in *Formation Emploi*, n° 17.
- Conseil, Pereire. *Le guide des métiers de la banque*. Paris: Banque Éditeur, 1998.
- Doeringer, P.; Piore, J.M. (1971). *Internal Labour Markets and Manpower Analysis*. Lexington: MA: DC Health, 1988.
- Eymard-Duvernay, François; Marchal, Emmanuelle. *Façons de recruter*. Paris: Éditions Métallé, 1997.
- Eymard-Duvernay, François. *Économie politique de l'entreprise*. Paris: La Découverte, 2004.
- Gavini, Christine. *Emploi et régulation: les nouvelles pratiques de l'entreprise*. Paris: CNRS Éditions, 1998.
- Green, Francis. *The Value of Skills*. Canterbury: University of Kent, 1998.
- Mincer, Jacob. *Schooling, Experience, and Earnings*. England: Gregg Revivals, (reedition), 1993.
- De Palma, Francesco; Tchibozo, Guy. *La politique de l'emploi de l'Union*

- européenne. Dévoluy, Michel. *Les politiques économiques européennes, enjeux et défis*. Paris: Éditions du Seuil, 2004, p. 171-204.
- Legrand, Sophie. Vieillesse des salariés et adaptation des entreprises. In Stankiewicz, François (dir). *Travail, compétences et adaptabilité*. Paris: L'Harmattan, p. 107-132, 1998.
- OECD. *Human Capital Investment: An International Comparison*. Centre for Educational Research and Innovation, 1998.
- Oi, Walter. Labour as a quasi-fixed factor. In *Journal of Political Economy*. vol. 70, October 1962, p. 538-555.
- Paul, Jean-Jacques; Murdoch, Jake. L'enseignement supérieur européen au regard de la préparation professionnelle de ses étudiants. *Politiques d'éducation et de formation. Analyses et comparaisons internationales*. Université et professionnalisation, DeBoeck Université, 2001/2002.
- Paul, Jean-Jacques; Murdoch, Jake. Comparaison internationale: à la recherche de jeunes diplômés de l'enseignement supérieur compétents en informatique. *Formation Emploi*, n° 82, Paris: CEREQ, 2003, p. 47-60.
- Paul, Jean-Jacques. *De quelques interrogations sur nos approches traditionnelles en économie de l'éducation, surgies de l'analyse du comportement des étudiants européens*. Dijon: IRÉDU, août 2002, First edition, 2002.
- Paul, Jean-Jacques; Suleman, Fátima Valorisation des acquis ou valorisation de l'expérience professionnelle: la production et la valorisation des compétences dans le secteur bancaire, présentée au 17^e Colloque International de l' ADMEE. *L'évaluation des compétences: entre reconnaissance et validation des acquis de l'expérience professionnelle*. Lisbon, 18, 19 and 20 November 2004, at the Faculdade de Psicologia e Ciências da Educação, 2004.
- Schultz, Theodore W. Inversión en capital humano. *Economía de la Educación*. Madrid: Editorial TECNOS, 1961, p. 15-32.
- Stankiewicz, François. Adaptabilité – implications sur l'analyse du human capital. Communication aux *Journées AFSE – Économie des ressources humaines*. GATE, Lyons: 16-17 mai 2002.
- Suleman, Fátima. *La production et valorisation des compétences sur le marché du travail. Des approches néoclassiques à l'économie des conventions*. Thèse pour le doctorat en Économie, Instituto Superior de Ciências do Trabalho e da Empresa, Lisbon: Université de Bourgogne, Dijon (French version), www.u-bourgogne.fr/IREDU, 2004.
- Thurow, Lester C. *Generating Inequality*. United Kingdom: The MacMillan Press LTD, 1976.

Appendix 1: The skills acquisition model

Skills	R ² A	Constant	Schooling	Experience	Length of service	Sex
General technical knowledge	0.263	1.577***	0.134*** 0.443	-0.010 -0.133	0.004 0.039	0.066 0.036
Specific technical knowledge	0.072	2.367***	0.072*** 0.241	-0.107 -0.214	0.021** 0.206	0.101 0.057
Knowledge of foreign languages	0.258	2.254***	0.089*** 0.293	-0.021** -0.264	0.001 0.010	0.025 0.014
Negotiating skills	0.056	3.725***	-0.002 -0.007	-0.024** -0.326	0.007 0.072	0.034 0.020
Skills of persuasion	0.064	3.742***	-0.008 -0.028	-0.025** -0.341	0.007 0.074	-0.078 -0.046
Perseverance and goal-orientation	0.042	3.833***	0.000 -0.002	-0.026** -0.343	0.016 0.166	-0.095 -0.054
Customer-orientation	0.075	3.858***	0.009 0.033	-0.024** -0.319	0.007 0.075	-0.040 -0.024
Understanding bank strategy	0.094	3.201***	0.041** 0.158	-0.020** -0.293	0.012 0.140	-0.017 -0.011
Ability to work independently	0.019	2.870***	0.044** 0.156	-0.008 -0.104	0.016 0.167	-0.060 -0.035
Ability to take responsibility	0.023	3.060***	0.046** 0.168	-0.004 -0.060	0.008 0.083	-0.058 -0.035
Receptiveness to learning	0.163	4.038***	0.012 0.044	-0.029*** -0.399	0.003 0.031	-0.037 -0.022
Effort in learning	0.143	3.700***	0.023 0.080	-0.030*** -0.402	0.009 0.096	-0.019 -0.011
Adaptability	0.163	3.703***	0.026 0.097	-0.033*** -0.474	0.015* 0.169	-0.008 -0.005
Ability to innovate	0.112	3.340***	0.017 0.060	-0.024** -0.331	0.004 0.044	-0.030 -0.018
Planning and organising work	0.046	3.526***	0.007 0.027	-0.023** -0.315	0.014 0.151	-0.097 -0.057
Using computer systems	0.204	4.052***	0.009 0.031	-0.048*** -0.661	0.024** 0.252	0.111 0.065
Analytical skills	0.069	2.929***	0.043** 0.160	-0.023** -0.331	0.025** 0.274	-0.045 -0.028
Selecting and processing information	0.090	2.969***	0.045** 0.170	-0.023** -0.332	0.019** 0.212	0.012 0.007
Problem-solving skills	0.054	3.207***	0.031 0.112	-0.019** -0.261	0.014 0.148	-0.053 -0.688
Ability to learn	0.174	3.585***	0.038** 0.147	-0.028*** -0.416	0.012 0.136	-0.007 -0.005
Transferring, transposing knowledge and experience	0.079	3.068***	0.042** 0.167	-0.017** -0.261	0.012 0.145	-0.010 -0.006
Understanding the specifics of banking	0.073	3.468***	0.024 0.097	-0.023*** -0.354	0.016* 0.191	-0.024 -0.016
N	443					

Source: Survey 'Valorising skills in the employment market', 2001