

**The Mexican National System of Competency Standards, Skills Testing and Certification:  
Measuring the benefits of on the job training and discussing the economic rationale for not passing the government the bill for the certification of workers skills.**

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More than five years have already elapsed since an ambitious program of National System of Competency Standards, Skills Testing and Certification was launched in Mexico –inspired in the British system of National Vocational Qualifications as well as with the Australian experience.

A couple of well documented reports elaborated by Mexican official institutions involved with this project already give account of its achievements, describe the institutional framework and the challenges for the coming years. (CONOCER-SEP-STPSS (2000) & CONOCER (2000) ). If there is enough time, I could comment and summarize the content of these reports.

I do not intent to address the large number of similarities that the Mexican experience may have with other countries' early phases of implementation with these kinds of program, or attempt to contrast some differences. I will rather concentrate on some issues of my own current theoretical and empirical research agenda related to this topic and discuss how they refer to the issues which are the particular concern of this workshop.

These are related on the one hand on how to assess and measure the benefits of on the job training and of obtaining a certification of such skills.

On the other hand they relate to arguments of the economic rationale for improving assessment and recognition of learning outcomes and consider to what extent, in the Mexican case, the process can be financed by firms and by workers that benefit from its existence.

In my view, we still do not have a convincing empirical study enabling us to measure and discuss the benefits obtained in Mexico by making the learning outcomes more visible by means of the evaluation and certification of labor competency standard. Neither are we in a position to assess the earning benefits attributed to on the job training, in general and of the training received in this kind of program, in particular.

Because of this, I will spend part of the time of my presentation discussing why available studies are not entirely reliable

I present here my own estimates of earning benefits of on the job training in Mexico, thereby attempting to overcome some of the criticism that I will point out.

A set of figures enables us to assess the growth of Certificates of Labor competency granted up to now in Mexico. These figures show a jump from 5621 in December 1999 to 22 820 in October 2000.

A first question that arises is: to what extent can the rate of growth of the last months be increased or sustained?

This is a particularly relevant moment to ask this question, since major and financially costly efforts to transform the supply of technical education have been made as part of this ambitious project, e. g. (CONALEP, Technological Universities, PROBECAT)

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A second question –which corresponds to the major topic of this workshop is: Who should finance the evaluation and certification process? Are there reasons to expect firms to pay a substantial part of the bill?

Roughly speaking, the cost of obtaining a certificate is approximately a worker's total week salary. A question that helps assessing if public subsidy to these program be eventually be reduced is: Would persons obtaining a certificate be willing to pay for it?

A recently finished study provided by CONOCER (CONOCER (2000a) addresses this question and provides a first answer. In this study, a survey was applied to both, a set of persons that obtained their certificates and to another set which, having been in a position to obtain it, did not bothered to do it (This is in spite of the fact that, at this stage of the program, certifying process was not paid by workers).

In addition, they give a further perspective of the answer by applying, as well, a survey to firms involved in the evaluation and certification process and to a set of firms which were not.

This procedure constitutes a good point of departure to address this question in the Mexican context. I will summarize the findings of this study and comment on its strong and weak points.

**Stylized facts that characterize the Mexican labor market; economic rationale for improving evaluation and recognition of skills and reasons why the private sector could be expected to pay a large part of the bill**

Education attainment is relatively low: Less than 50% of workers have no more than primary education and no more than 70% up to completed secondary school .(Cfr Lopez-Acevedo, G. *et al.* (2000)). Hence a system of normalization and recognition of competency labor standards constitutes a vehicle to improve their performance in the labor market. This is by offering a life long learning and recognition mechanism which is not dependent on formal education processes.

A number of features that characterize the labor market are:

Firstly, the theory of efficiency wages seems to explain the wage setting process is determined in large sectors, specially the most dynamic ones. (Cfr. Maloney, W. (1999))

Second, in contrast to this feature (and part of the reasons that explains it), very high rates of growth of employment characterize these sector occurs, together with high rates of turnover. (Cfr.. Calderon-Madrid (2000)).

These features point out, on the one hand, why it cannot be expected that employers be willing to pay for Certification of workers skills that fulfill a national system of competency standards.

On the other hand, they also point out why they might be quite willing to have them as part of the hiring and wage setting processes.

Stated differently, a system of evaluation and certification of labor competency may induce workers mobility among firms; a byproduct that will increase a premium paid for the retention of employees. In contrast, it can also reduce the screening cost and initial training expenses of workers to be hires.

A colleague and I are currently working with an analytical framework in the lines of Mortensen's work, with which we want to calibrate the effects of Evaluation and certification of occupational skills on the Mexican labor market. In this model, employers and firms search a mutually convenient match, but this might finish in view of ideosyncratic shocks.

In order to calibrate the model for the Mexican labor market, we must have empirical assessments of the benefits of having received a training on the job.

We also have to incorporate the economic rationale for improving assessment and recognition of on the job learning outcomes.

In my view these are the following: certification of skills within a system of competency standards solves a problem of asymmetric information. This is the well known 'market for lemons' market argument, originally pointed out by George Akerlof.

That is, a worker moving out of a job into another one might end up losing part of the benefits obtained with his/her training. Because of this information asymmetry that characterizes the labor market, he/she has an incentive to insure against this contingency.

A credible certification of workers at a national level plays the role of the required insurance mechanism; this suggests that workers would be willing to absorb part of the certification costs.

On the other hand, a coordination failure, among firms competing for the hiring of skilled workers is also an important part of this story.

A trusted system of evaluation and certification of workers' skills at a national level would reduce the costs of filling their job vacancies. In addition they may be less inclined to pay workers wages above market levels in order to retain them in their firms.

In view of these arguments, we posit that it is not entirely convincing to consider the evaluation and certification process as a 'public good', to be financed almost entirely with taxpayers' money and taken away from other government responsibilities with society.

We argue that a successful mechanism dealing with the above mentioned coordination failure should be the basis for transferring the evaluation and certification bill from the government to the private sector.

### Measuring the gains of having received training

One of the reasons why expected benefits of training programs in general (and of National System of Competency Standards, Skills Testing and Certification in particular) have not yet given robust results are first:

- a) Experience is not accurately measured: Mincer equations should include experience as an explanatory variable. However movements out and into the labour force might be important. Hence approximations, such as proxies of age less schooling are misleading.
- b) In view of prevalence of 'efficiency wages' explanations, job tenure is an important explanatory variable that causes omitted variables bias.

As opposed to what happens with surveys so far available to assess the effects of training programs in Mexico, the questions of the National Employment and Training Survey (ENECE, which is estimated each two years in Mexico) provide accurately assessed information to measure the above mentioned variables and therefore are not subject to this criticism.

We therefore use this data base and consider a subset of trainees in design, graphical arts and related activities together with those who received training in services related to restaurants and hotels, (reasons for this will be clarified later). We include as part of the information to be assessed a corresponding subset acting as control group. This subset is constituted by those workers, with the same kind of activity, who received no training at all.

The results are:

Dependent Variable: logarith of hourly wages

l_w2_h	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
educ2	.1124568	.0270249	4.161	0.000	.0594789	.1654347
educ3	.2160109	.0301485	7.165	0.000	.1569097	.2751121
educ4	.3596641	.0330625	10.878	0.000	.2948506	.4244776
educ5	.6694722	.0317715	21.071	0.000	.6071894	.731755
tenure	.022918	.0033124	6.919	0.000	.0164246	.0294114
tenure2	-.0004742	.0001043	-4.546	0.000	-.0006787	-.0002697
nsexo	.0610559	.0200375	3.047	0.002	.0217757	.1003362
pf1	.0979916	.0261805	3.743	0.000	.046669	.1493142
pf3	-.1502565	.0243893	-6.161	0.000	-.1980678	-.1024453
Training	.1711885	.0521343	3.284	0.001	.0689878	.2733893
dzone1	-.0752278	.0217881	-3.453	0.001	-.1179398	-.0325157
dzone2	-.0097037	.0306133	-0.317	0.751	-.0697161	.0503087
dzone3	-.3341454	.0265101	-12.604	0.000	-.3861141	-.2821766
dzone4	.0177393	.033277	0.533	0.594	-.0474948	.0829734
dzone5	-.2079504	.0367864	-5.653	0.000	-.2800641	-.1358367





ocu14		1.024874	.1870484	5.479	0.000	.6582659	1.391482
educ2		-.1484023	.1428707	-1.039	0.299	-.4284238	.1316192
educ3		-.0802923	.1552971	-0.517	0.605	-.384669	.2240844
educ4		-.2137106	.1626798	-1.314	0.189	-.5325572	.1051359
educ5		-.4518563	.1493565	-3.025	0.002	-.7445897	-.159123
contrato		-.0057667	.1099022	-0.052	0.958	-.2211711	.2096376
s_fijo		.2868525	.1308078	2.193	0.028	.030474	.5432311
formal		-.3120088	.1208839	-2.581	0.010	-.5489369	-.0750808
mas_35		-.0638657	.1139824	-0.560	0.575	-.2872672	.1595357
_cons		1.380067	.1862794	7.409	0.000	1.014966	1.745168
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mills							
lambda		.8095307	.1169396	6.923	0.000	.5803334	1.038728
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rho		1.13285					
sigma		.71459628					
lambda		.80953074	.1169396				
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A final point to be commented, as far as our estimates are concerned is how to measure the enhanced employability that could result from these kinds of training and certification:

Workers' expected benefits of being trained on the job should take into account that it will not be the case that the person is employed all year long, a problem we have addressed and measured somewhere else. (*Cfr* Calderón, A. and Trejo, B. (2000). In this particular case it is possible to assess to what extent, not having been certified, modified average time spent employed. This is related to time to find a job and once found it, time spent in it before moving out.

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