

ECONOMICS 6030
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Changing Entry Level Education Requirements:
Is the Neo-classical Model Helpful?

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Introduction

Within the labour market the supply and the demand for labour interact to determine wages.

This paper will utilize concepts outlined in the neo-classical labour market model to assess how a proposed change in entry-level education requirements for medical radiation technologists impacts on the Newfoundland and Labrador labour market. The key players will be outlined; supply side issues, such as current numbers in the classification, projected retirements, and labour force participation in light of a degree requirement will be addressed. The demand side will be considered, such as whether a degree is required to perform the work, social costs of being unable to provide employment and health services to a community, and increased costs associated with degree-prepared medical radiation technologists. The conclusion of the paper will comment on the applicability or lack thereof of the neo-classical model.

Background

The Newfoundland workforce is aging; and over the next ten years retirements in this area will increase sharply. In Canada as a whole, 25 percent of the current workforce will be aged 55 or older by the year 2006 (Discussion Document, 2001). A national survey conducted regarding lab and x-ray technologists and technicians by the Federal/Provincial/Territorial Advisory Committee on Health Human Resources revealed that:

- there is already a supply shortage,
- the casualization of the workforce is making recruitment very difficult,
- the aging Canadian population will increase demand for services,
- to make the most effective use of personnel, more employers are seeking multi-skilled technologists; and

- the increasing complexity of technology, the acuity of patients and changes in the health care environment require technologists to have a broader knowledge base upon entry into the field (Discussion Document, 2001).

To address the need for a multi-skilled workforce in this province, the College of the North Atlantic (CONA), in partnership with the Department of Health and Community Services and the regional health boards, offered and supported a combined program developed by the Northern Alberta Institute of Technology, to train lab registered technologists (RTs) in medical radiography and medical radiography RTs in laboratory. The regulations for the *Radiation Health and Safety Act*, which define the qualifications for operators of radiation equipment, is administered by the Department of Labour, which was not originally consulted regarding the combined program (Discussion Document, 2001). This program is accepted in most provinces; and the graduates are particularly suited to meet the needs in rural areas with scattered populations.

To address the skills and knowledge needed for the increasing complexity of technology, the Canadian Association of Medical Radiation Technologists (CAMRT) has adopted a requirement to have a degree as the entry level to practice as a medical radiation technologist from 2005 onward (please note, within the past six months CAMRT has deferred implementation of the degree requirement until 2010). A Bachelor of Technology proposal was submitted by CONA and Memorial University to CAMRT, and has been accepted as fulfilling all of the necessary criteria for registration with CAMRT.

Medical Radiation Technologists (MRTs) operate radiographic and radiation therapy equipment to administer radiation treatment and produce images of body structures for the diagnosis and treatment of injury and disease (Health Personnel, 2000). Within the province, MRTs are mainly employed in regional hospitals and the provincial cancer treatment centre. Their duties include operating equipment/scanners/units, recording and processing patient data, and performing scheduled maintenance and emergency repairs on radiographic equipment (Diagnostic Supply Report, 2001).

Radiation technology, as a discipline, includes many areas of advanced or specialized training including radiation therapy, nuclear medicine, magnetic resonance technology, breast imaging, and diagnostic medical sonography.

The current entry level to practice requirement in this province for medical radiation technologists is a three-year medical radiography diploma program.

Combined Laboratory/X-ray Program

In the past CONA, with the support of the Department of Health and Community Services and the regional health boards, offered a combined laboratory/x-ray program that trained laboratory RTs in medical radiography and medical radiography RTs in laboratory science. This program was developed to provide multi-skilled professionals that were able to meet the needs of rural health boards.

Prior to April 2002, the combined technicians have not been eligible for registration with CAMRT. In this province, the Department of Labour agreed to the employment of combined

lab/x-ray technicians, without certification by CAMRT, under certain conditions. Without a similar exception, which would allow the employment of new graduates after 2004, there will be no replacements for retiring combined technologists. Health boards will require the services of part-time technologists in laboratory and x-ray, to replace one retiring combined technologist.

Nationally, combined lab and x-ray technologists are employed in Prince Edward Island, Nova Scotia, Saskatchewan, Manitoba, and Alberta (Diagnostic Supply Report, 2001).

CAMRT's Requirement for a Degree

Section 10(3) of the *Radiation Health and Safety Regulations* states that a technologist must be “registered as a radiological technician by the CAMRT.” In 2005 a degree will be required by CAMRT for registration. This could mean that x-ray technologists/ technicians who graduate from a diploma program will no longer be able to start practicing in this province after 2004.

However, s.10(5) of the *Radiation Health and Safety Regulations* provides that:

A person who has completed a course of instruction in radiation technology approved by the minister and is authorized by the director may, in circumstances or places where the services of a person authorized by subsection (3) to use radiation equipment cannot reasonably be made available, operate radiation equipment for the irradiation of human subjects.

This provides for a process which would allow diploma graduates from approved programs to work in areas where CAMRT registered technologists are not available or required. There seems, however, to be obstacles to this approval process, which is unfortunate, since it is a

potential solution for the difficult situation that rural health boards could face without appropriate preparation.

Participants in the Labour Market

According to the neo-classical model there are three participants in the labour market: individuals, employers and the government. I am proposing there are four main participants influencing the standard for entry to practice for medical radiation technologists.

The health care system in Canada is largely comprised of three groups of employees: regulated professional occupational groups, unregulated professional occupational groups, and a vast array of supportive and complementary staff. While there are a group of core professionals regulated in all jurisdictions, a second group is regulated in approximately half.

As a component of professional regulation, eligibility to hold a license is defined through a combination of criteria including educational requirements and for some professions, meeting established competencies. A focus on uniformity and complimentary licensing processes has been actively addressed in recent years through requirements of the Agreement on Internal Trade to eliminate barriers to professional mobility (Discussion Brief, 2002).

Determining the standard for entry to practice has largely been influenced by four stakeholders:

1. regulatory bodies (national and provincial),
2. educational institutions,
3. governments, and

4. employers.

1. Regulatory Bodies

Nationally, regulatory bodies, amongst other mandates, debate and establish positions on the entry to practice educational requirements of each respective profession. Several groups have both national exams and national standards, which provide a benchmark or criteria from which provincial authorities license practitioners. Most groups are licensed at the provincial level and it is up to jurisdictions if they adopt the national standard, however most do. With the exception of Quebec, there is a significant degree of commonality in all jurisdictions on entry to practice for most professions.

Some national bodies have further authority to accredit educational programs. The CAMRT is one such national body which has this authority (Discussion Brief, 2002). It is unclear how such national bodies were initially entrusted with this authority. If the standard is moved to a higher standard, previously existing programs that do not meet the new standard will not be accredited. Most, if not all education ministries would not fund educational programs not meeting accreditation standards.

2. Educational Institutions

Both public and privately funded training programs operate under the legislation or regulations of each jurisdiction's education system. Program design and delivery is usually influenced by regulators, either provincially or nationally. Employers are sometimes consulted and on occasion, governments. For example, BN and RN programs in Newfoundland and Labrador are

approved by their respective councils, the ARNNL and CLPN (Discussion Brief, 2002).

Sometimes lobby efforts by associations, in cooperation with educational institutions, have successfully influenced changes in educational standards.

3. Governments

Most legislation controlling the practice of health professional is under the mandate of provincial/territorial health departments. Occasionally other government departments regulate these professions such as the Department of Labour, with regulations related to medical radiation technologists and related fields under the Radiation Health and Safety Regulations. Generally, governments are not involved in discussions on the competencies required by professionals or the potential need to change entry to practice requirements. Ministries of health, however, are asked to amend such professional legislation/regulations at the request of professional bodies. Further government impacts include funding of new educational programs, recognizing higher qualifications in collective agreements, and ensuring measures are in place to sustain the workforce (Discussion Brief, 2002). Secondary effects on government as an employer are often felt when groups with historical salary relationships with other groups advocate they deserve equal salary increases.

4. Employers

Employers have little control over the entry to practice requirements of professionals. In order to hire or contract the services of most professionals, there is a duty to ensure practitioners are licensed as per provincial legislation/regulations. Employers are sometimes consulted in the

debate on entry to practice requirements, as the clinical leaders in such areas are often licensed professionals themselves, affiliated in some capacity.

In general, there have been many arguments put forward by proponents related to rationale for increasing educational entry to practice requirements. These usually include: increased complexity and acuity of clients needs, increased technology, a need to have broader critical thinking skills, researched based practice and professionalism, increased opportunity for career mobility, improved professional status of the occupation, opportunity to compete with higher salaries/benefits (Discussion Brief, 2002). Historically in Newfoundland and Labrador, when entry to practice requirements have changed there has been no empirical evidence presented to support the need for change. With respect to the BN requirement for entry to nursing, anecdotal evidence from employers suggests graduates have less clinical knowledge than diploma-graduated nurses.

A weakness in the neo-classical model is illustrated whereby regulatory agencies are not included as participants. The CAMRT clearly influences those who can practice as medical radiation technologists in the Province of Newfoundland and Labrador. Establishing educational qualifications and criteria influences the labour force participation decision of individuals thinking of working in this particular field. The neo-classical model does not provide for regulatory agencies as participants; yet, they do influence the labour market. The model does not outline why a self-regulating agency would seek to increase educational qualifications. The model is able to look behind the motives of employers from the demand side as well as individuals who supply labour; however, the theory is weak with respect to regulatory agencies.

Essentially the neo-classical model suggests that there is no need for regulatory agencies whereby there are no barriers to entering the labour market and that regulatory agencies would create inefficiencies. However, clearly the agencies do influence the market.

Given the significant number of professions that are regulated by legislation and provincial and/or national regulatory bodies, there is a policy justification for the role government has placed upon such regulatory agencies. Government's primary objective is insuring public protection. The self-regulatory body is responsible to ensure the public is protected and can rely upon the provision of professional services provided under a professional designation. Government itself does not have the resources or expertise to ensure that professional competence, credibility and integrity are maintained in the numerous health professions. The self-regulating body ensures through admission criteria that its members are competent professionals and generally maintains the requirement for ongoing education and/or mentorship (Meadows, 2002)

Self-regulating agencies protect the public interest by ensuring that professional credentials are only issued to members possessing the appropriate level of education and skill as determined by the profession's membership. Government relies upon the self-regulating body to establish the level of competency required by the "reasonable" professional in terms of what should be expected from the group of professionals (Meadows, 2002). Under the *Radiation Health and Safety Regulations* government has recognized the role of the CMART, specifically in paragraph 10 (3)(c) which states that "..... a person shall not use a radiation installation or radiation equipment for the purposes of irradiation of human subjects unless that person is registered as a

Medical Radiation Technologist by the Canadian Association of Medical Radiation Technologists.”

Supply Issues

In 1995 the CAMRT approved an initiative that would change the educational requirement for certification to the degree level, effective 2005 (Degree Initiatives, 1997). Nationally, the degree decision by CAMRT has received varying levels of acceptance. Several of the eastern provinces, however, have begun the transition to the degree requirement. Some employers and governments continue to suggest, however, that diploma remain as entry to practice with support for the degree option being available for those who wish to pursue advanced education or as a prerequisite to some specialized positions (Diagnostic Supply Report, 2001).

According to CAMRT, the move to a degree requirement was based on the need for a broader knowledge base due to: a) the increasing complexity of medical radiation technology, b) the changing health care environment, c) the acuity of patients, and d) the role of its members in multi-disciplinary teams (Degree Initiatives, 1997).

For this province the last diploma graduates will be completing their program in 2004 and first class of degree graduates will not be graduating until 2006. Thus, the degree initiative will result in no graduates of medical radiation technology in 2005.

There have been both benefits and concerns raised regarding the degree initiative. Benefits, as reported by a national environmental scan of the human resource issues affecting medical

laboratory technologists and medical radiation technologists, include enhancement of career laddering, more career opportunities, greater international mobility, improved quality of health care service, greater research potential and development (Diagnostic Supply Report, 2001).

Concerns raised about the degree initiative include opinions that the program should continue as an applied program and higher training costs for students will be incurred (Advisory Committee on Health Human Resources, 1999).

Medical Radiation Technology is taught at the College of the North Atlantic. The three-year medical radiography diploma program graduates approximately 12 students per year. Beyond 2004, graduates of the diploma program in this province will be required to pursue a one-year Bachelor of Technology (Medical Radiography) from Memorial University in order to obtain licensing with CAMRT (Diagnostic Supply Report, 2001).

Labour Force Participation

The proposed degree entry to practice is not the only factor affecting the labour supply.

Individual participation decisions are impacted by choices as to when to start a family, whether full-time employment is available and individual retirement plans. The provincial association conducted an independent survey of 248 provincial MRTs and 24 students in March 2000 (Collins, 2000). Of the 174 respondents (70 percent response rate) 60 percent were female and 40 percent were male. The survey asked the participants to provide the anticipated date of retirement. Fourteen of the 174 respondents were unsure of their retirement date. The known retirement dates were discussed in comparison to the approximate number of new graduates that will be available. The results concluded that from 2000–2005 there will be approximately 48

new graduates to replace 22 retiring professionals. However, the Collins (2000) survey revealed that 12 of the 24 students were planning to leave the province due to job opportunities and higher wages. The number of new grads from 2006–2010 will likely be further reduced by the degree initiative (no new grads in 2005).

It is important to note that the above data does not take into consideration any change in staffing levels or other patterns of migration or changes in labor force participation. The above numbers reflect the number of people, not the number of full-time equivalents.

On a national basis, an environmental scan of the human resource issues affecting medical laboratory technologists and medical radiation technologists was reported in 1999 by a working group of the federal/provincial/territorial Advisory Committee on Health Human Resources (ACHHR). The working group provided an age profile of CAMRT members as of June 11, 1996. The report stated that as of 2006, 25 percent or 2066 of CAMRT members across the country will be 55 or older (Advisory Committee on Health Human Resources, 1999). The same proportion was true for MRTs in this province (16 out of 247 provincial members will be 55 or older in 2006) (Diagnostic Supply Report, 2001).

If mobility costs are assumed to be negligible, the neo-classical model suggests that some portion of existing combined medical radiation technologists will move to other labour markets.

Combined technologists are employable in Nova Scotia, Prince Edward Island, Saskatchewan, Manitoba and Alberta (Diagnostic Supply Report, 2001). Approximately one half of the respondents were under the age of 40, therefore they are a relatively mobile group to move to

another market such as Nova Scotia (Collins, 2000). Based on a national scan of employment opportunities, there are vacancies for combined medical radiography technicians in most provinces (Diagnostic Supply Report, 2001). Less than 8 percent of respondents indicated they had degrees. This is of utmost concern given the degree criteria for registration with CAMRT (Collins, 2000). Obviously there are mobility costs associated with moving to another province to work, however, a significant number of respondents will be prohibited from working unless they return to school for further upgrading.

Another factor contributing to the possible migration of combined medical radiography technicians is the inability of the market to respond to changing educational requirements. Employers are unable to adjust compensation in the short term to pay less for those with a diploma in relation to those who return to school and obtain a degree. Salaries along with terms and conditions of employment are fixed through collective agreements, which are generally in place for a period of three years.

Childbearing

The Collins (2000) survey found that 60 percent of respondents were female; and of those 83 percent were of childbearing age (less than 40 years old). With the recent change in maternity and parental benefits from 25 to 52 weeks, effective January 1, 2001, additional MRTs will be required for maternity leave replacement over and above the number required to replace annual losses due to retirements and other causes. 1996 census data indicate that participation rates are greater than 70 percent in women 35-54 years of age with some university education (Statistics Canada, cited in Benjamin, Gunderson and Riddell, 2002).

Employment Status

Current vacancies in the province have largely been casual, rather than full-time positions (Diagnostic Supply Report, 2001). The majority of new graduates are seeking full-time work in order to pay back increasing student loans and are eager to begin their careers (Collins, 2000). It is expected that fewer students will stay in the province when full-time permanent positions with higher salaries are available elsewhere. In the short term, employers are unable to offer additional full-time positions due to budget restrictions applied by government.

Whether individuals elect to enter the profession of medical radiation technologist will be determined in large part by how they view the education decision. In general, most individuals who acquire a university degree will want additional compensation when entering the labor market with a degree as opposed to acquiring a diploma. Under the human capital theory a potential applicant will review the net income he or she will receive in comparison to the costs associated with obtaining a degree to become a medical radiation technologist. If the investment is calculated to be profitable, he/she will seek the degree. The diploma program required three years of education whereas the degree requires one additional year. A four-year program will likely cause applicants to compare medical radiography to other occupations requiring similar educational commitments, along with expected compensation upon entering the labour market. There is no evidence available indicating whether fewer numbers will enter a medical radiography degree program.

One of the weaknesses in the human capital theory is that it assumes individuals will receive greater compensation based on their increased productivity resulting from the education. In the

Newfoundland scenario, despite a proposal for a degree requirement, there is no proposed increase in compensation over and above that which was provided for those entering with a diploma. As well, the classification system allocates minimal weight to education when determining overall compensation levels. Uncertainty is another factor which the neo-classical model does not consider. Five years ago when individuals obtained a diploma to work as a combined medical radiation technologist it was unlikely that there were any discussions at that time of increasing the requirement to a baccalaureate degree and hence restricting the ability to continue to work in that profession. A potential applicant seeking to enter that occupation is faced with a great degree of uncertainty as to the entry-level requirements when he/she graduates and in subsequent years. It could be argued that the baccalaureate degree is simply a signaling mechanism whereby those without a baccalaureate degree will be screened from employment eligibility in the health sector. There is evidence combined lab and x-ray technologists are currently performing quality work under the former diploma program. This leads to the next item for consideration; namely, the impact a degree for entry to practice has on the demand for medical radiation technologists.

Demand

There is considerable debate in health care today related to the impact an aging population will have on health service requirements. While reports have suggested a compression of morbidity resulting in healthier older Canadians, data from Statistics Canada has shown (a) that there has been a decrease in activity limitation by individuals aged 65-74, but (b) there has been no significant decrease in the prevalence of most chronic conditions among people in this age group over the past two decades (Health Reports, 2000). If, indeed, the incidence of chronic disease

among the elderly has not declined, a significant increase in the elderly population will likely result in a substantial increase in the demand for diagnostic and therapeutic services. For example, increases in cancer screening, detection and treatment will likely increase the requirement for services such as radiation therapy (Diagnostic Supply Report, 2001).

A recent report by the Canadian Association of Radiologists reported that Canada's 9.8 million baby-boomers will begin to turn 65 in the year 2007 and given that approximately 80 percent of diseases occur during the last portion on an individual's life, the authors conclude there will be an increase in the demand for health care services in the upcoming years (Canadian Association of Radiologists, 2000). The authors go on to predict a 200 percent increase in the demand for diagnostic imaging scans to diagnose, assess and treat the major causes of death in seniors such as cardiovascular disease, cardio-cerebral disease, and cancer.

On the other hand, recent attention to clinical guidelines, utilization reviews, consolidation of health services, and appropriateness criteria for diagnostic testing could mitigate anticipated increases expected from other causes. Technology advancements as well could improve efficiencies and costs per test.

It is difficult to predict the effect of new diagnostic technologies and interventional approaches on the staffing requirements of diagnostic professionals in the province. As technology advances and improved diagnostic equipment becomes available, the need for technologists could rise or diminish (Diagnostic Supply Report, 2001). On the other hand, new technologies may serve to increase the speed and efficiency of many tests, replacing others, and perhaps reducing the

number of technologists required. One factor underlying this process will be the availability of capital funds for acquisition and replacement of equipment.

It is unknown what the impacts will be on staffing levels by such advancements as tele-radiology, increased automation and the use of robotic instrumentation. The potential centralization of radiologists as telehealth capacity improves, may result in an increased independence of technologists, perhaps increasing the time required per case (Diagnostic Supply Report, 2001). The increasing complexity of new technologies and equipment combined with the evolution of new testing modalities may also continue to cause a growing demand for services in the future.

A neo-classical labour market model suggests that employers will determine and select the quality of labour required based on the production requirements. In the health setting for this specific case, production is the provision of diagnostic health procedures with respect to medical radiation technologists and combined technicians. According to the model, employers would signal the marketplace for a change in qualifications whereby those without the appropriate skills would no longer be hired and the employers would hire employees with the higher set of skills; namely a baccalaureate degree. However, the intervention of the CAMRT to require a baccalaureate degree rather than a diploma has “short circuited” the function of the marketplace. Arguably, CAMRT’s intervention has a negative impact on those entering the labour market in the profession. If the employers had pursued this initiative, based on the neo-classical model it would be a reasonable expectation that higher compensation would be awarded to those with the higher qualifications. In this particular scenario, the regulating body required a higher set of

qualifications. This means additional training and cost to graduates, which employers will not reward through increased compensation, because degree-prepared graduates are not felt to be a requirement by all employers. Anecdotal evidence obtained through correspondence and discussions with chief executive officers of the health facilities in the Province of Newfoundland and Labrador indicate that the demand for degree-prepared medical radiation technologists is not universal throughout all facilities. For example, it is felt by many rural sites in the province that a degree requirement will be of more benefit to acute centers where technology and procedures continue to grow in complexity. In the rural centers, a strong opinion was expressed that well-trained technicians or the current college trained technologists are more than competent to provide a high quality of service in these areas, which they have been doing for some time (Correspondence, 2000-2002). As well, with respect to recruitment, it has been the experience of several rural sites that university trained professionals are reluctant to live and work in rural areas. If university training becomes a standard then smaller sites may not have access in all cases to x-ray services. The human capital theory would support this finding in that those with a greater education level tend to seek out opportunities for greatest compensation and/or use of the education. In larger sites, although the compensation may be similar to rural sites, medical radiation technologists would have access to a greater complexity of procedures and level of technology.

The issue of reduced x-ray services in smaller sites poses an overall societal problem. If x-ray services are reduced in rural sites, it may impact on retention of physicians who rely on diagnostic x-ray services. Without such services, physicians may elect to move to other locations. The health board in conjunction with government would then have to address a

problem of certain communities being unable to access medical procedures. Given the recent debate and Romanow Commission Report, Canadians are demanding access to health services. This could have political implications, whereby members of the House of Assembly do not wish to have employment negatively affected through physician and/or other health professional vacancies within their communities. If employers are unable to hire combined technologists, this will increase the demand for other professionals. For example, at least one rural health facility provided evidence that it was able to produce the same units of service with three combined technicians as was produced by five non-combined technologists. For the hours during which there is no technologist onsite and someone is required to be on-call, one combined technician can perform call, whereas two non-combined technicians would be required otherwise, thus significantly increasing the cost of call coverage. The board also conducted reviews and was satisfied that it had not detected any significant differences in the quality of work when these staff (combined technicians) were used in appropriate settings. This is an example where the market did not require a change in the quality of labour, regardless the self-regulating body implemented the change.

Another factor impacting upon the employers' ability to provide services is arguably the inelasticity of the supply of medical radiation technologists. If the proposed changes are implemented resulting in no graduates in the year 2005, combined with no longer being able to have combined technologists/technicians provide radiology services, rural employers will have a difficult time providing some diagnostic services. In the short run there are no substitutes. This profession is in demand nationally and our provincial compensation packages have not been overly successful in attracting individuals from other parts of the country. Given the employers

require the individuals to provide diagnostic services which in turn impacts on the number of physicians employed and the overall health of the community, employers have aggressively lobbied government to delay implementation of the baccalaureate degree requirement and maintain the diploma program.

Conclusion

The impact of a degree for entry to practice, along with a refusal to grant combined technicians' registration, on the labour market has been briefly reviewed. What insights did the neo-classical model provide? While the model omitted self-regulating agencies, such as the CAMRT as labour market participants, it did provide a starting point for analysis. The model outlined that the interaction of several participants determined wages in the market. This formed the basis for reviewing the factors influencing supply and demand for labour. It would not be practical for any model to identify all participants in any conceivable labour market.

The model prescribes that in order to understand the supply of labour, you must "get inside the heads" of those supplying the labour. The reports consulted in preparing this paper, focused on factors influencing individual decisions of whether to work as medical radiography technicians or medical radiation technologists. Similarly, the model outlines that many factors, not simply one, influence whether individuals supply labour. The factors considered earlier; childbearing, employment status, and retirement projections attempted to capture what individuals would do with respect to working.

Deciding whether to enroll in a degree program is one of the investment decisions proposed by the model. The model does not categorically identify what people will do when faced with such decisions, however it does highlight factors that human resource planners should consider when making labour supply projections.

Employers supposedly determine the demand for labour. In this scenario, employers did not signal a required change in qualifications, rather it was initiated by CAMRT. The model, could not describe the CAMRT intervention, rather the model would view CAMRT intervention as creating inefficiencies. However from a broader societal perspective, the CAMRT does perform an important role in ensuring standard competencies . In the short term employers are unable to adjust compensation levels to reflect different levels of education. The model can account for societal costs of unemployment and limited access to medical services.

In summary, the model has identified deficiencies however without something better, it is a good tool to analyze market changes.

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