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TERRITORIAL DEVELOPMENT AND HUMAN CAPITAL IN THE KNOWLEDGE ECONOMY: TOWARDS A POLICY FRAMEWORK

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

This document was prepared by Mr. Riel Miller, OECD Consultant. Its aim is to explore the role of investment in human capital in territorial development. An analytical and policy framework is proposed that takes into account the territorial dimension of an increasingly knowledge-based economy.

The views expressed are those of the author and do not necessarily reflect the opinion of the OECD. This Notebook is made available to the public on the responsibility of the Secretary General of the OECD.

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CHAPTER 1. INTRODUCTION -- DESTINATION AND PREMISES

At its final destination this paper reaches two conclusions:

1. In the knowledge economy (KE), the intersection of territorial development (TD) and human capital (HC) policies occurs when local programs facilitate the valorisation and transparency of people's productive (wealth creating, both market and non-market) competences.

2. Amongst numerous TD policy tools capable of fostering HC transparency and valorisation, there is a central role for public institutions that assess, validate and mobilise the acquisition and use of human embodied knowledge, for instance through assessment and validation of an individual's prior learning (i.e. accumulated knowledge).

Following the path to reach these two conclusions requires a modest voyage over the following pages. The trip is partly theoretical and partly historical. Chapter 2, more on the theoretical side, offers a revised definition of human capital that is crafted in such a way as to be analytically useful when considering the policy challenges of the knowledge economy and territorial development. Chapter 3, working close to the frontier of economic thinking, outlines key attributes of the knowledge economy and its links to territorial development policies. Chapter 4 covers a recent case study in territorial development (TD) policy, an initiative in Ontario called "jobsOntario Community Action" (jOCA). Having traversed the foothills of theoretical economic inquiry and the slopes of historical policy experience, the reader attains the paper's summit. Chapter 5, staying within the confines of this short excursion, only sketches the perimeters of the policy framework that emerges from the two conclusions stated above.

Throughout the following journey one set of premises in particular helps to guide the analysis and inspire the arguments. Succinctly put, it is assumed that the allocative decisions regarding human capital -- as both a stock (how we use existing knowledge) and a flow (additional investment to acquire knowledge) -- are the outcome of complex (multi-variable), institutionally shaped information systems. In turn, the choices about how, when and where to use and acquire human capital plays a major role in determining the economic success or failure of individuals, families, firms, and specific geographic spaces (villages, cities, regions, countries). Although it may seem self-evident, the specific quality or degree of transparency of the information used by people to make decisions about what, when, where and how they do things is a critical determinant of the valorisation (returns -- monetary and non-monetary) of investing in and with human capital.

Focusing on the information and allocation dimensions of human capital in current economic and social life leads to the conclusion that the signalling systems used in the past to make allocative decisions about human capital are becoming obsolete. The old systems need to be replaced by new, more local and information rich sources. The following pages explore some of the economic reasons behind the need to change the quality of the human capital information systems in OECD countries as well as the telltale policy responses that might eventually create a guiding or indicative framework for policy makers.

A final introductory remark, intended to set the compass for this voyage, is meant to avoid the typical practice of leaving terms like "policy framework" implicit. An easy definitional starting point

involves drawing the parallel with a physical framework, like a factory, that is engineered to structure action. In the case of a factory, where and how something is done, such as unloading a truck, is determined by the designers choices regarding the, location, size, etc. of the loading dock. The architect's blueprint, once implemented, provides a tangible, physical guide for action. A policy framework also influences what actions are considered possible and eventually taken. However, without recourse to physical limits as a way of determining available choices and thereby influencing action, a policy framework aims to establish the decision making structures, the nature of available information and the power relationships, that then guide the way we see and do things.

Hardly as reassuring as the engineer's blueprint that becomes concrete foundations and steel girders, a policy framework that develops out of historical experience or analytical logic can still be counted upon to bear a significant burden. Technocrats attempt to draw the frameworks capable of actually conveying practical indications of what needs to be done to reach a policy goal. Program criteria such as income eligibility thresholds based on program objectives like reducing expenditure are good examples of commonly used policy frameworks. However, there is another, more general sense of policy framework as the co-ordinating structure for a set of specific programs. It is this latter, more overarching type of policy framework that is the topic for discussion in this paper.

Elaborating such a framework is an ambitious goal for a short paper and will require a bit of a forced march. On this voyage the aim is to triangulate a general policy framework on the basis of three inter-related trends. The first reference point (Chapters 2 and 3), emerging from salient features of the current economic landscape, is a series of inter-related changes taking place in the way human capital is allocated, the firm is organised and space is occupied. The analysis focuses on links between human capital, the knowledge economy and territorial development. Taking the time to assess the relationship between territorial development and the knowledge economy is not a detour on the way to a policy framework for human capital at the local level. On the contrary, the emerging learning economy is one of the fundamental reasons for both the greater effectiveness of government programs at the local level and the need for policies that improve the transparency (quality and accessibility) of human capital information.

The second set of reference points (Chapter 4) emerge from a policy case study. Here, the history and lessons of Ontario's Community Economic Development Secretariat offers insights into the ways in which policy implementation and effectiveness is also being transformed by the changes in the surrounding economic landscape. Finally, the voyage ends (Chapter 5) with the policy framework suggested by the combined trends discussed in the previous sections. The policy framework points towards criteria and targets that may help guide the development and implementation of human capital policies at the local level.

CHAPTER 2. HUMAN CAPITAL -- ASPECTS OF A THEORY

Intangible capital -- people in action

Economists are currently reacting to a strain of economic malady that appears to resist traditional treatments. Like doctors confronting the wily adaptations of viruses that attack the human body, economists are trying to simultaneously discover both new cures and the source of the disease. Sometimes relieving the symptoms offers clues to the disease's cause, but not always. Recently, economists have been impressed by the role of "intangible" assets in maintaining a firm's competitive trim. The clue in this case is that firms with otherwise similar tangible resources (land, raw materials, buildings, machinery, even workforces) often display strikingly different capacities to withstand exposure to cold competitive winds.

What distinguishes the winner from the loser is frequently a set of intangible factors. **Management** "ethos" accompanied by consistent incentives, organisational structures and supply/demand relationships are amongst the pivotal factors said to bring success. **Knowledge**, the ability to diffuse it within the firm and use it to assure innovation, productivity and quality, is another determining ingredient in winning the competitive race. **Co-operation** amongst firms in finding: clients, accountants, new technology, sources of supply, appropriate technical solutions, special expertise, customised marketing, able workers, efficient transportation, and financing, is another often mentioned intangible advantage. **Flexibility** or adaptability also counts in determining the outcome of the race. Intangible assets cover a large range of diverse enterprise attributes.

Most of these intangible factors, it is essential to recognise, are embodied in people. Intangible assets are mostly human capital. What sets the tangible and intangible apart within the process of wealth creation or adding value, is action. Intangible factors of production primarily add value by taking action. And, initiative is the defining characteristic of human resources. Be it managerial know how, knowledge diffusion, intra- or inter-firm co-operation or the confidence to change ahead of the wave, all of these talents are vested in people, the bearers of human capital.

A number of recent OECD reports have exposed the connection between the intangible determinants of economic success and human resources.[1] For instance, *Territorial Development and Structural Change* highlighted this link by pointing to the role of invisible or intangible human capacities in determining the economic success of a firm and a locality.

> (The) success or failure of local development policies depends largely on a range of invisible factors. The capacities of actors discussed here relate precisely to the efforts to mobilise these invisible factors in order to use, exploit, combine and integrate the resources available. These human capacities are the reason why areas with similar resource endowments, in terms of quantity and quality, may have widely varying degrees of success and achieve very different results. They can be summed up as the capacities to animate and mange on the part of the institutional actors, and the capacities to innovate and be entrepreneurial for people running business.
>
> (OECD, 1993, p. 46)

At the root then of local economic success are a series of specific capacities that reside in people and the institutions they energise. Hence, it is human capital, spanning a wide range of particular competences, that determines if public or private organisations can meet the challenges not only of specific product markets but also of creating the territorial or community conditions within which innovation and productivity can flourish. These invisible factors are primarily "capacities" embodied in individuals or groups of individuals as competences. Which brings us to the consideration of the next addition to our analytical tool kit, a more precise definition of human capital.

Human capital as knowledge or capacity

> The connection between knowledge and human capital is easily understood if one realises that capital is formed by investment, that investment in human resources is designed to increase their capacity (to produce, to earn, to enjoy life, etc.), and that improvements of capacity, as a rule, result from the acquisition of 'knowing what' or of 'knowing how'.
>
> (Machlup, 1984, p. 8)

Machlup, one of the pre-eminent theorists of knowledge as an economic category, identified three different categories of knowledge capital. He explains:

> For the analysis of various problems connected with knowledge production — for example, the problem of depreciation of knowledge stocks — it will be advantageous to distinguish three sites of knowledge stocks and, corresponding to them, three categories of capital: (a) knowledge embodied in individual physical tools or machines specially built according to specifications developed in costly research and development, (b) knowledge embodied in individual persons, specially schooled and trained 'knowledge carriers' and qualified workers with acquired skills, (c) non-embodied knowledge, created and disseminated at a cost but not inseparably embodied in any particular knowledge carriers or any particular products.
>
> (Machlup, 1984, p. 430-431)

The focus, in this essay, is on animate as opposed to inanimate knowledge for two reasons. First because the shift from an industrial to a knowledge economy call for a reassessment of the relationship between animate and inanimate knowledge. In industrial economies it is often the case that people, regions or countries that are poor in inanimate knowledge such as books and machines are poor in certain kinds of animate knowledge, particularly technological skills. With the strong emphasis in industrial societies on technical knowledge, there is a tendency to equate a dearth of inanimate knowledge (or the closure of the factory) with a lack or depreciation of "living" knowledge. However, as anthropologists are quick to explain, non-industrial communities posses equally vibrant animate or "living" knowledge in their language, values and cultural history. So too do formerly industrial communities, like single industry towns that once depended on steel or automotive production. Indeed, one of the central implications gathered during this short analytical voyage is that economic development in the emerging KE depends on validating and utilising the frequently idle, uncertified and cultural human capital in the community.

Second, from an allocative and investment perspective, it is primarily active human decision making that counts. It is true that our capacity to make decisions and the available options from which to chose are influenced by the material conditions that determine access to information and the potential latent in the knowledge embedded in inanimate objects like machines. But people make the choices regarding how to use resources. Choices about what to learn, how to produce, who to employ. These are the decisions that set the rest of the inanimate world in motion. Human embodied knowledge or, for the purposes here, the capacity contained in human capital, is the pivot around which the rest of the world turns.

Human capital as investment

Swords with double edges are tricky to use. Wielding a concept like human capital can be similarly risky. Typically the term "capital" conjures up images of disembodied steel fabrication, edifices cast in concrete or soulless cash financing deals. For this reason and others, associating the word "human" to the word "capital" invokes protests from many outside (and a few within) the economics profession. Predictably the practitioners of the dismal science regularly bring accusations of dehumanisation on themselves by succumbing to econometric habits and temptations that substitute correlation for reason and empiricism for understanding.

Even within the profession, human capital theory has had its fair share of criticism and upheaval. At least two, if not three generations have come and gone since Schultz, Becker and Mincer contributed to a special issue of the *Journal of Political Economy* published in October 1962.[2] Sorting out the cut and thrust of this chequered past would mean dragging along too many extraneous terms and debates for this short voyage. All that is needed for the purposes of our present quest is a workable definition that clarifies the connection between the intangible nature of what we know and the bottom line, apparently tangible dollars and cents attributes of the economic term: capital.

First, however, consider the more tangible, corporeal side of the concept human capital. We are flesh and bone. Our tangible physical health, strength, dexterity all play a role in determining what we can and cannot do. Wellness and the capacity to live a full life, spanning all aspects of work and play, are eminently part of a person's total human capital. Without in any way diminishing the importance of this tangible side of human capital, the focus here is on the so called intangible dimension. That part of our capital value which, unlike our physical body, is only indirectly observable. Our "embodied knowledge" cannot be weighed on a scale. However, the gap between the tangible and intangible aspects of capital value -- the financial and economic perspective on capital -- may not be as wide or unbridgeable as is often thought.

For instance, putting a car or a typewriter or steel plant on a scale does not tell very much about its capital value. A light weight car might be a super expensive sports model or a rust eaten heap of scrap. Guessing the worth of a physical asset such as a fancy electric typing machine or yesterday's steel mill is not intrinsically easier than valuing the skill needed to invent the initial image of Disney's *Lion King*. What is at stake in the financial or economic evaluation of capital, whether we are considering the value of bulky ingots or ephemeral "street smarts", is the risk involved in making an estimate over time of the future worth of an asset (or, as it might turn out, a liability for the something like the environmental clean-up of the old iron works).

Because capital is a temporal concept, a productive asset over time, there is less conceptual distance between tangible and intangible assets than is commonly assumed. The inter-temporal estimation of value (rates of return) brings tangible and intangible capital on to common ground.[3] Pushing the

verisimilitude a bit further paves the way to borrowing a number of useful distinctions from the world of more traditional "capital goods" in order to apply them to human embodied knowledge. In particular two sets of distinctions improve human capital's analytical cutting edge. First the distinction between stocks and flows facilitates the analysis of two different types of decision making -- one over how to allocate an asset that has already been accumulated, the other over incremental additions or maintenance investments to one's existing skills. Second the distinction between estimated value (using conventions, tests, experts, records, forecasts, etc.) and actual value (sale price or current wage) accentuates the important role of institutions and conventions such as bookkeeping and stock markets. Sharpening the definition of human capital this way draws it closer to its more staid physical and financial cousins.

Conceptual proximity is not the same as practical convergence in treatment or usage. It is critical to recognise the vastness of human embodied knowledge and the diverse nature of the socially constructed power structures that determine its recognition or denial. No taxonomy, no matter how perfect, can span the infinite variations of the human genius for remembering, forgetting and learning. Degrees of skill are not tangible except ex-post in the form of a product or completed action. Still, efforts are made all the time to capture the particular permutation of brain, brawn and personality that defines an individual's competency. Assessment and validation of acquired knowledge is a commonly practised art form. It is an occupation mostly for monopolists like universities or professional associations granted the right to collect rents from those wishing to acquire certification. Power counts in this game. For employers, employees, students and teachers, the evaluation and validation of acquired human capital is a high stakes contest. It is not only tuition fees and wages that get calculated on the basis of such assessment and certification, but also learning investments, human resource strategies and the deployment of team members to different productive tasks. A wide range of decisions about how we use the stock and invest in the flow of human capital hinge on the imprecise metrics of certifying the multi-faceted and ever changing human capacity to take action.

Usually demonstrating a skill is a fairly good way to confirm a person's accumulated talents or lack thereof. Qualitative heterogeneity, from inventiveness to stubborn bad taste, is displayed in all its detail once a person has put their knowledge to work. From this perspective it is easy enough to say that the proof is in the pudding. Unfortunately this is too rarely the way certification, validation or valorisation of skills takes place. Ex-post tangibility does not automatically mean that the institutions of learning certification or employment are willing or able to recognise a persons competency based on their performance. As students and employers know only too well there is often a large gap between actual competences and either diplomas or salaries. Here we come face to face with the role of systems for establishing human capital transparency and valorisation. We also confront the most basic problem of providing accurate and inexpensive information about human capital. At the moment, in most parts of the OECD, getting good information about what a person actually knows how to do is a more often described as an unresolved policy challenge than an accomplished fact.

Lundvall and Johnson put it well when they wrote:

> If we take seriously that knowledge is the most fundamental resource in our contemporary economy and that, thus, learning is the most fundamental process, what are the implications for the institutional set up of the economy?…the crucial role of government in the learning economy becomes a didactic one, to support learning processes and, sometimes, processes of

> forgetting. … Learning -- both intra-cultural and cross-cultural -- is the main characteristic of social and economic change and learning can be affected by policy-making and, deliberately, institutionalised in more or less efficient ways.
>
> (*The Learning Economy*, Institute of Production, Aalborg University, 1993)

As we chart our way towards the policy framework that concludes this trip, it is worth bearing in mind that learning -- the human capital flow (depreciation and investment) -- is the outcome of specific social and institutional constellations. Using such formulations as analytical navigational aids draws attention to the differential architectures for identifying and valorising human capital (transparency, incentives, disincentives). Behind these different facades is not only a range of distinct cultures (or "stylistic" periods) but also alternative engineering and technological capabilities. What is important and possible for one system such as Germany's vaunted "dual-system" for training is not feasible in another. Such differences matter because the quality of the information about human capital makes a big difference for the allocation of both the existing stocks and future flows of this precious resource. In the end it is by taking into account the strengths and weaknesses of different ways of recognising acquired productive capabilities that we will reach this essay's policy destination.

Stocks and flows of human capital -- new allocative signals

One of the primary reasons why the firm is a cost effective way to organise production is that it provides a (usually) willing and able labour force -- a stock of human capital to work with. Not that the human resource function of the firm has ever been simple. With or without Fredrick Taylor, it has never been an easy task to determine what skills a person actually possesses, what those skills are worth in the particular labour market and how they can best fit into the overall productive efforts of the firm. In the knowledge economy (KE) it becomes even more complex.

In the past, the challenge of assessing (recruiting) and allocating (assigning) human capital (workers) was simplified by two general aspects of the economy. First, engineers tried as best they could to simplify every task so that even Charlie Chaplin in *Modern Times* could get the job done. Secondly, governments made a valiant effort to provide uniform, universal and standardised education with the hope, at least in part, of making labour force selection and assignment easier. As long as jobs were basically tailored to an unskilled/behavioural (obedient) common denominator and mass-education matched this profile with hordes of youngsters, then most firms did not have to worry.

Today, on the contrary, it becomes very difficult to recruit and assign employees when the actual product depends on their capacity to assume responsibility in unanticipated circumstances and to initiate unforeseen solutions. A high school diploma for a mass-production job is a fairly transparent way to match a minimum job to minimum skills. The same system does not work too well trying to match the task of being imaginative to the capacity to be creative.

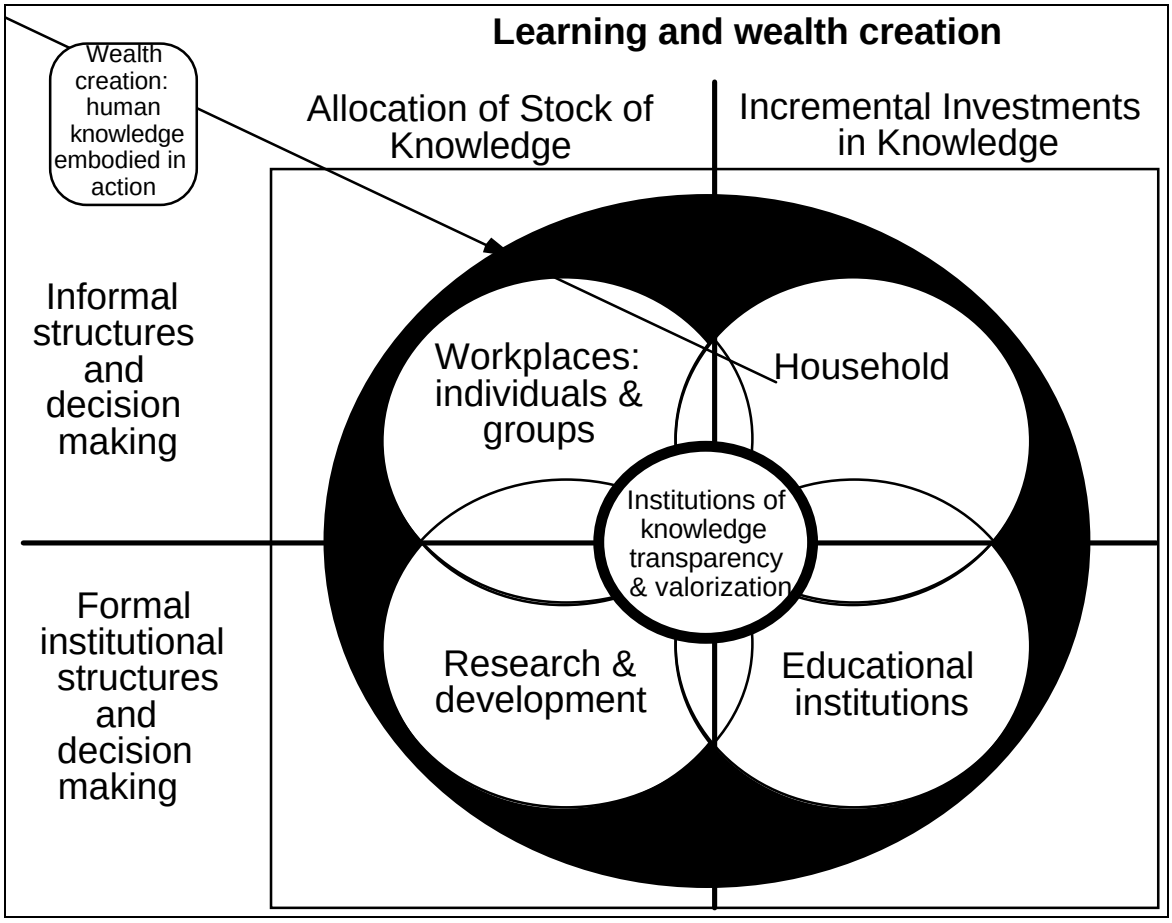
Firms in the KE are facing an entirely different challenge when it comes to performing the human resource function. In fact, the typical firm of the post-WW II era that functioned as an overarching bureaucratic structure may no longer provide the lowest cost framework for organising creativity and knowledge production. One of the root causes behind this disintegration of the co-ordinating role of the bureaucratic firm is its failure to find accurate and low-cost methods for assessing, assigning and improving the competences of its labour force. What is beginning to emerge out of the "creative destruction" of competition is the feasibility of networking human capital in ways that match directly, without the inter-mediation of the bureaucratic firm, the skills available and the tasks to be performed.

Bypassing the post-war firm's role as the organiser of the flows and stocks of human capital begins to undermine its basic reason for being. It also calls into question the myriad of supporting structures and government policies that have grown up to assist the functioning of this type of enterprise.

Networked, task based knowledge work is creating a new horizontal economy that renders many of the old economic categories close to meaningless. For instance, as Bridges points out:

> … to an extent few people have recognised, our organisational world is no longer a pattern of jobs, the way a honeycomb is a pattern of those little hexagonal pockets of honey. In place of jobs, there are part-time and temporary work situations. That change is symptomatic of a deeper change that is subtler but more profound. The deeper change is this: Today's organisation is being rapidly transformed from a structure built out of jobs into a field of work needing to be done. Jobs are artificial units superimposed on this field. They are patches of responsibility that, together, are supposed to cover the work that needs to be done.
>
> (Bridges, 1994, p. 64)

Diagram 1. Stocks and flows of knowledge -- decision making and wealth creation



One of the primary responses to this challenge will involve finding new ways of managing the stocks and flows of human capital. The KE demands a leap in the general capacity to recognise and valorise the acquisition and use of human capital. This is not an easy task, since as Diagram 1 (above) indicates there are many different sites where decisions are made about the acquisition and use of human embodied knowledge. Actual competences, the specific attributes of a person's human capital, are the outcome of thousands of decisions and experiences in the household, the workplace, the laboratory and the academy. The incentives and organisational imperatives that shape how and what we learn, remember and forget emerge out of a wide range of institutions (e.g. schools) and traditions (e.g. managerial practices like Taylorism).

Developing human capital, attending to both its uses and acquisition, is elevated to a new level in the knowledge economy. In the KE, decisions regarding the use and acquisition of human capital require greater refinement, more detailed information and a higher degree of ambient trust (i.e. not imposed by the authority structure taken for granted within the firm).[4] This higher standard for decision making holds across a wide range of settings, from the personal choices made at home or at work that incrementally generate your personal stock of knowledge to the organisational approach of the production team deciding how to allocate their knowledge assets (skills). The KE imposes new allocative imperatives when it comes to human capital. Imperatives that demand richer and more reliable sources of information if the decisions that are taken are to meet the competitive challenge of the marketplace.

To date, the information and methods for making decisions regarding the use and acquisition of human capital have been largely determined by the production requirements of subsistence and physical things such as food or machines. Knowledge content, the specific skills of the individual, played an important role but in large part farm hands or workers were interchangeable within their respective sectors of the economy. Muscle, dexterity and a few tricks of the trade served well for the vast majority of tasks. Not so for innovation, creativity and adding your point of view to the product in order to increase its value.

In the KE, where personal perspective and accumulated experience become even more important, it will be essential to develop human capital investment and allocation systems that accurately reveal the capacities or competences that collect as we live, work and continuously learn. Signals of general cognitive and behavioural achievement such as high school diplomas and training certificates are too vague and too static. Human resource management systems within firms are also severely limited, particularly in those places where the legacy of Taylorist and adversarial labour relations persist. Dynamic use and acquisition of knowledge requires more supple, content related and transparent signals. This is where institutional responses at the local level -- such as territorial development policies capable of validating human capital and establishing the trust upon which teamwork depends -- will play a pivotal role in moving the KE forward.

CHAPTER 3. THE KNOWLEDGE ECONOMY -- LOCAL SPACE AND INFORMATION QUALITY

Venturing into new territory, before the cartographers have arrived to survey and catalogue the peaks, valleys and quicksand, can be a dangerous proposition. Without taking too many risks, this section offers a set of observations and arguments regarding the emerging knowledge economy and the prospect, further in the future, of a learning economy. No apology is offered for the emphasis on the economic aspects of the changes taking place around us, although this does not imply that other types of social and cultural changes are secondary. In fact, as the discussion below unfolds it will become apparent that the knowledge economy is likely to reorder the economist's analytical and practical agenda towards a greater emphasis on the socio-cultural dimensions of life.

Defining territorial economic development

Trekking across a rapidly changing economic landscape necessitates a versatile analytical tool kit. Partly it is a question of where and when we travel. Few problems are likely to be encountered crossing the flat plains of an economically stable period. Over this terrain it makes sense to use the generalised information of high altitude macroeconomic maps to chart where we have been and where we are going. However, as competitive forces push up new technological mountains and globalisation digs fresh valleys in the international division of labour, navigation comes to depend on knowing the ground level contours of the economy.

Currently, a range of economic forces are pushing OECD countries into this more variegated topography. Economic and political changes are transforming what, how and where we produce. Globalisation, regionalisation and the "personalisation" of production are changing the economic topography. We are leaving the level plains of the mass-production and consumption era. As a result, navigation for enterprises, governments and individuals is trickier.

Once upon a time tweaking an automatic stabiliser was deemed adequate for charting a straight course across choppy economic seas. Today macro policies still matter, but tracing a path to wealth creation requires a closer look at the details. Firms know that deregulation, re-regulation, infrastructure, transparency, and product competition generate different results in different locations. Workforces, supply networks, transport costs, rates of technical and organisational diffusion, all of these factors vary from one place to the next. As the OECD recently pointed out:

> (T)he geographical concentration and specialisation of economic activities are clear-cut trends that are of great significance not only to analysts but also to policy makers. The newly emerging geographical pattern of production, characterised by a mosaic of local and regional production systems embedded in global firm networks, may well enable actors to bypass national policies or to weaken their effects.
>
> (*Territorial Development and Structural Change*, 1993, p. 21)

Taking into account local variations is indispensable. Neither business nor government can chart a successful course without looking at a more detailed map.

Territorial development policies try to take local -- geographically bounded -- conditions into account without succumbing to paralysis in the face of the reality of infinite variations at the micro level. Most community based approaches to economic policy start from a common and systematic analysis of local factors. In fact, the OECD's recently established Territorial Development Service (TDS) has played a role in refining and articulating these basic elements (see for instance Chapter 3 in *Territorial Development and Structural Change*, 1993). According to one definition, local economic development can be defined as "the process of building a community's **capacity** for shared and sustainable improvement in its economic well being" (p. 45, bold added). Thus, it is the systematic search for the local determinants of capacity that traces a preliminary map to guide territorial development policies.

Linking the knowledge economy and territory

At first glance the relationship between the growing importance of the knowledge economy and greater effectiveness of local policies may seem counter-intuitive. After all, one of the primary attributes that distinguishes the KE from the agricultural or industrial economies is that the production of knowledge by knowledge predominantly involves intangibles. Items that escape more readily from the geographically specific grip that hold most tangible things like buildings or machinery or wheat fields. Ideas, designs and creativity flow inexpensively and quickly, particularly in digital form on a global network such as Internet. Knowledge as a product -- even more so in digital form -- detaches itself from the traditional clues (age, race, sex, nationality) that identify its creator. From this perspective the digitally based knowledge economy alienates us even further from the particular attributes of space, time and the individual. It would seem to be the anti-thesis of a trend towards reinforcing the importance of the geographically specific territory.

There are however, four potentially significant counter-tendencies within the knowledge economy that mitigate the trend towards greater alienation and reinforce the importance of a non-alienated, transparent and culturally distinctive local community:

1. the fact that knowledge is content (i.e. interpretation not just raw data) and content is culturally defined or circumscribed;

2. a growing knowledge intensity of both production and consumption (primarily involving a shift from mass- to personalised-wealth creation);

3. an increase in spatial, temporal and organisational agnosticism as the digital infrastructure begins to reach critical mass; and

4. greater competitive advantage now accrues to the most effective systems for learning, building trust and establishing human capital transparency.

The next four sub-sections offer a rapid exploration of these topics.

Knowledge, culture and production

The distinguishing trait of the knowledge economy is the fact that knowledge requires content. And, when it comes to the content of the music we hear, the clothes we wear, the workplace training plan

we adopt, or the food we eat, quality counts. In turn, the quality of knowledge is very dependent on what can be called a "point-of-view" or cultural perspective. Reggae music, French fashion, the German "dual-system" training scheme, or Italian food all exhibit particular qualities that display a specific culture or way of looking at the world. In the knowledge economy a distinctive point-of-view and the culture that makes it possible are becoming more not less important. What matters is the capacity to mine the raw material of the information age -- data -- and refine it into a specific way of understanding tasks and products.

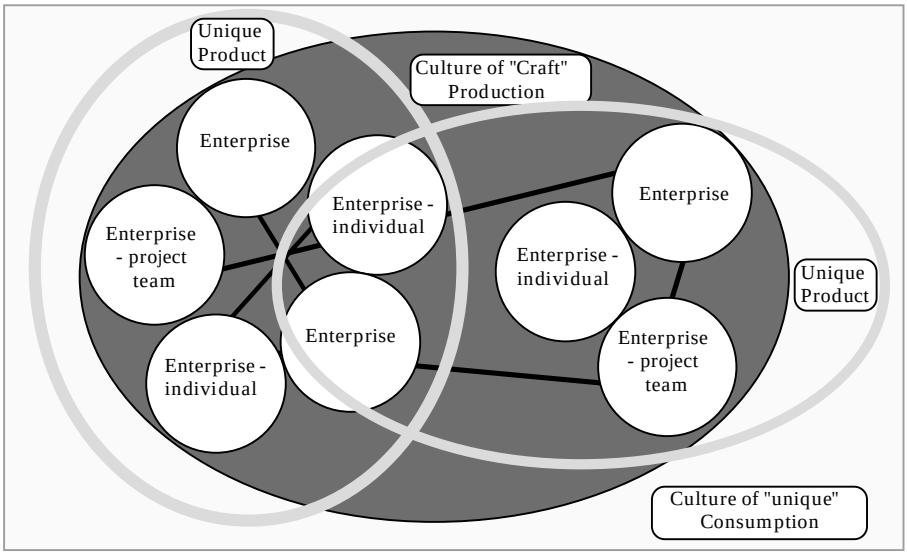
This observation would be banal except that today a twofold movement is taking place in OECD countries. On the down escalator is the economic and social system of mass-production and consumption. On the up escalator is a society where knowledge is becoming the preponderant form of value added. This is a world of personalised consumption and production made possible by much greater access and use, not just of data, but information that has been filtered, understood and individually reinterpreted. Point-of-view is becoming the pre-eminent commodity.

In this personalised economy what you know -- your particular culturally specific point-of-view -- matters. As a result, the formation of culture (not just technical know-how) takes on new economic significance. In turn, this involves reversing the alienation and homogenisation generated by mass culture's powerful combination of brutality and abundance. Brutality marked by the power of technological and marketing know-how to push McDonald's, Coke and Michael Jackson into every corner of the globe. Abundance that is familiar in the form of gushing assembly lines throughout the world, flooding markets with inexpensive and uniform products.

Moving away from this one-dimensional condition means nurturing unique points-of-view for both consumers and producers. Personal taste and customisation emerge from knowledge rooted in the values and experiences of a specific culture. These cultural capabilities embodied in a person's point-of-view are not exclusively shaped by the proximity of a shared place. However, the role of culture in production and consumption generates renewed importance to territory as one of the most basic crucibles for the social interaction and common historical experience upon which culture depends.

Diagram 2 offers one way of visualising the role of culture when knowledge becomes the dominant moment of wealth creation involving a much higher degree of learning and continuous interaction both within and between consumers and producers. The production networks depicted in Diagram 2 are situated within a dual cultural flow. One is at the level of the consumer and the other is amongst the various producers. A crucial ingredient in this type of economy has often been locally specific learning or knowledge developed and shared within a well defined network. Here the development of human capital and territory go hand in hand. Spatially specific knowledge economies are now confronted with a new type of economy where space and time are less constrained by distance and the imposed rhythms of the sun or factory whistle.

Diagram 2. Personalised wealth creation -- the culture of production and consumption



The changes demanded by the competitive pressures to add knowledge at every step of the production process have the potential to push in opposite directions. One way is towards delocalisation as the network spreads work to every corner of the globe. Forces moving to reinforce local community combine the powerful human desire to live in familiar surroundings with the new found possibility of turning any location into a node on the Net (aka Internet). Added to desire and feasibility is the growing knowledge intensity of production, with its emphasis on creativity and linking producer and consumer. Locally nurtured culture becomes the fertile ground for developing the all important point-of-view. With higher knowledge intensity local economies are being called upon to redefine how and what they learn. In particular, with the growing knowledge intensity of wealth creation, the systems for allocating the stocks and flows of human capital become even more important.

Growing knowledge intensity of wealth creation

Proclamations of the exponential growth of the sources and uses of information abound. Evidence to satisfy the rigorous empiricist is harder to come by. Data is certainly accumulating. What is less certain is the use to which the information is put. Is the raw data being transformed into knowledge? Is the knowledge used in wealth creation, from the home to the factory, proportionately greater now than in the past? Satisfying the statisticians on these issues remains to be done. In the meantime there are a number of indicative and common sense signs that reveal an intensification of knowledge creation and use in the economy.

High rates of R&D and intangible investment. One of the ways of tracking the trends in the knowledge intensity of the economy is to look at the output of science and technology. On this score Deiaco, Hornell and Vickery, point out that:

> Two broad trends can be observed in the development of modern industrialised countries. First the output from the world's science and technology system has been growing rapidly throughout the 1980s. A doubling of the stock of knowledge within seven to ten-year intervals has been

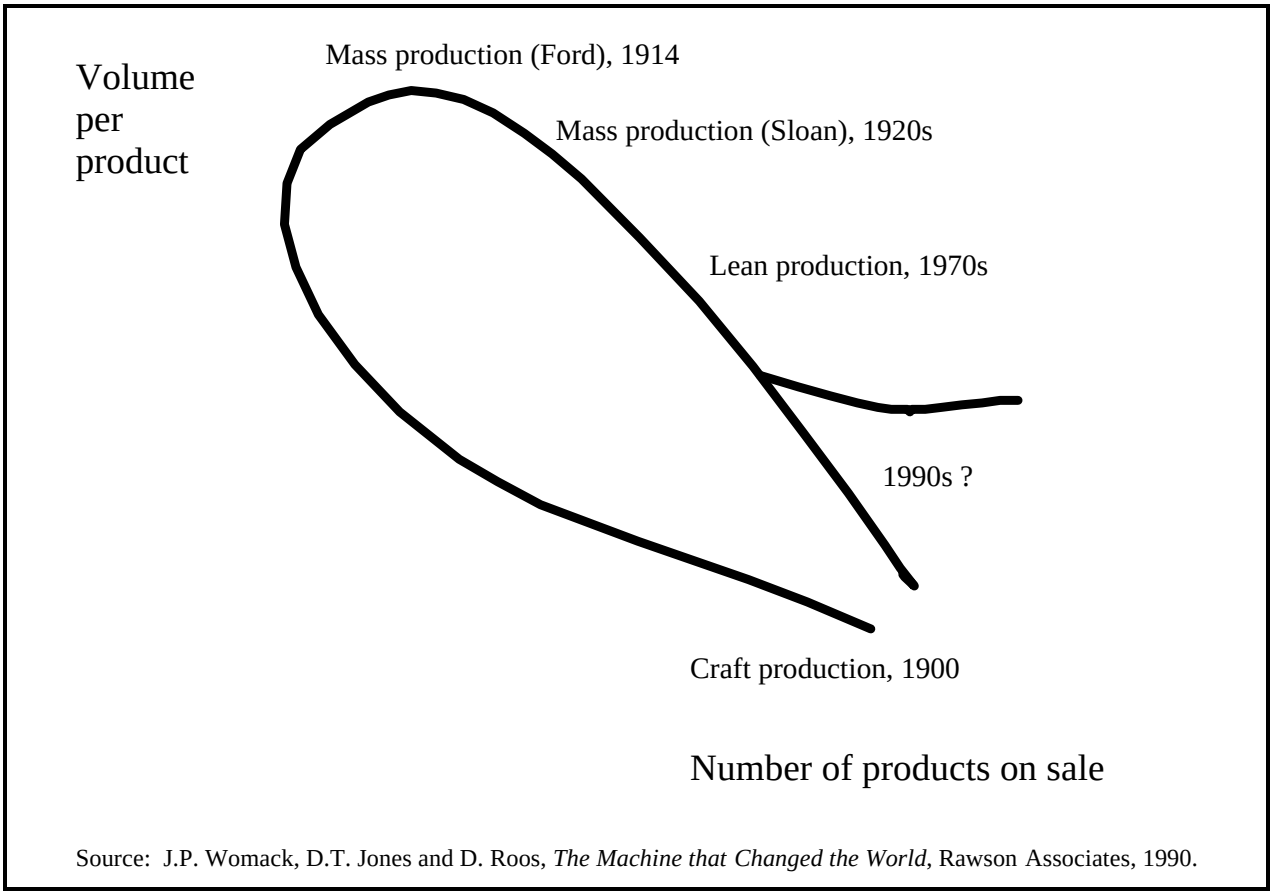
> common, corresponding to annual growth rates of about 7-10 per cent. Second, the '80s have seen changes in the nature of investment. The relative proportions of physical and intangible investment have changed considerably. For example, some measures show that total industrial intangible investment had passed physical investment in Germany, Sweden and the UK by 1987. Other evidence of the changing nature of investment is the increased complementarity between physical and intangible investment as well as the high technology content in both kinds of investment. These trends are transforming the structure of productive assets.
>
> (Deiaco, Hornell, Vickery, 1990, p. 1)

Growing design intensity of production. At a more anecdotal or experiential level it is possible to observe changes in the relative importance of the different inputs to wealth creation.[5] More products from cars and television shows to banking services and food shopping are becoming "customer driven". Not only does this reduce the homogeneity or sameness of products thereby forcing the supplier to add more knowledge. But, for the consumer there is the added task of knowing which product suits their specific tastes.

Special information is being added to each "unique" product. For instance today a small baking enterprise in Canada needs to produce twenty-five different types of bread instead of two in order to win over customers with a wide range of specific tastes. This increases the knowledge input per unit compared to the past when it was possible to compete with only two types of bread and long production runs. Aggravating the situation even more is the higher rate at which new products are introduced and old ones phased out. Clearly per unit knowledge intensity increases even more when customer feedback alters the product mix on a regular basis.[6]

Diagram 3 provides a simple illustration of the implications for the production of new designs as the automotive sector moves towards greater product variety. At the moment not every car is designed uniquely for the individual that is buying it. Current flexible production techniques allow the consumer to choose from a much wider menu of options than in the past. This is customisation if not personalisation. In most sectors of the economy there is still some distance to go before the point is reached where the producer and consumer collaborate to invent a personally unique output. Interactive networks are only at the pilot stage and the software for navigating the Internet is only in its second or third generation.

Diagram 3. Growing knowledge intensity -- the progression of product variety and production volume in the auto industry



Source: J.P. Womack, D.T. Jones and D. Roos, *The Machine that Changed the World*, Rawson Associates, 1990.

In the past, the canals, trains and automobiles that played a role in reshaping the geography of the economy and everyday life by cutting costs and time diffused gradually. Cyberspace, the railroad culture of today, appears to be spreading much more rapidly. Without confusing the take-off for gestation, it is true that semiconductors have been working their way into daily life for some time. So far much of the literature about the end of Taylorism and mass-production has remain stubbornly fixated with that part of the economic terrain illuminated by where the streetlight or data is located, i.e. manufacturing industries. Unfortunately for researchers and policy makers, the leading edge of personalised production is emerging first in the less studied, poorly understood world of intangibles. Indeed, out on the frontier of cyberspace and the knowledge economy are the harbingers of the end of the firm and the job, at least in currently familiar forms.

Again, for the local community the verdict is not simple. On the one hand, greater knowledge intensity, the fragmentation of the firm and the job, can all serve to disperse people and wealth in ways that delocalise. On the other hand, the greater personalisation of wealth creation also fragments the mass-market, offering new opportunities for those producers who know you best (and you trust and communicate effectively with) to customise output to your tastes and the specific predilections of the local community. Once cultivated, this individual discernment -- culturally very specific proclivities -- mesh with those of the trusted supplier in a new type of productive relationship. These “craft” suppliers are, in

turn, able to take advantage of the Net to improve efficiency and seek both new markets and new ideas. The outcome here is not a forgone conclusion. But, if there is a greater knowledge intensity of production in the future it will help to privilege in-depth sources of knowledge -- ones that are likely to be rooted in the rich detail of local culture.

The collapsing of space and time -- the end of the firm, the job and community?

Adding knowledge at every step in the value chain is beginning to call into question the familiar notion of the firm as an organisational unit. Over fifty years ago a famous economist asked why firms exist. Why are there groups of people working together under one organisational framework? Coase wondered why there is no market within the firm. Why is it not profitable to set up a system where each worker, at each step in the production process, becomes an independent buyer and seller? How come the CAD/CAM operator does not auction their services to the engineer? Why is it that the engineer does not sell their designs to the highest bidder?

One of the main answers to these questions has to do with the cost of information. Producing a loaf of bread, a car or a hospital emergency ward service involves a number of steps where co-operation and common purpose are essential in actually delivering a useful product. An emergency room where each doctor bids for nursing services in an attempt to get the lowest price, while at the same time determining if the nurse is actually capable of assisting with the operation, might provide a fully functioning market but not a particularly useful product for the dead patient. Similarly, holding an auction before the axle assembler would pass on their product to the chassis assembler might slow down the line. It would be even less efficient if the information on engineering viability and compatibility needed to be purchased on the shop-floor marketplace at every step.

What makes a pure market impractical is the time and cost of acquiring the information needed to undertake complex production processes. What is being sold? What is the quality of the labour? What is the quality of the raw material or intermediate input? What is the price for the final product? How will it be sold? By whom? With what kind of information or marketing? Who will finance the production process and how much will financing cost? On and on it goes.

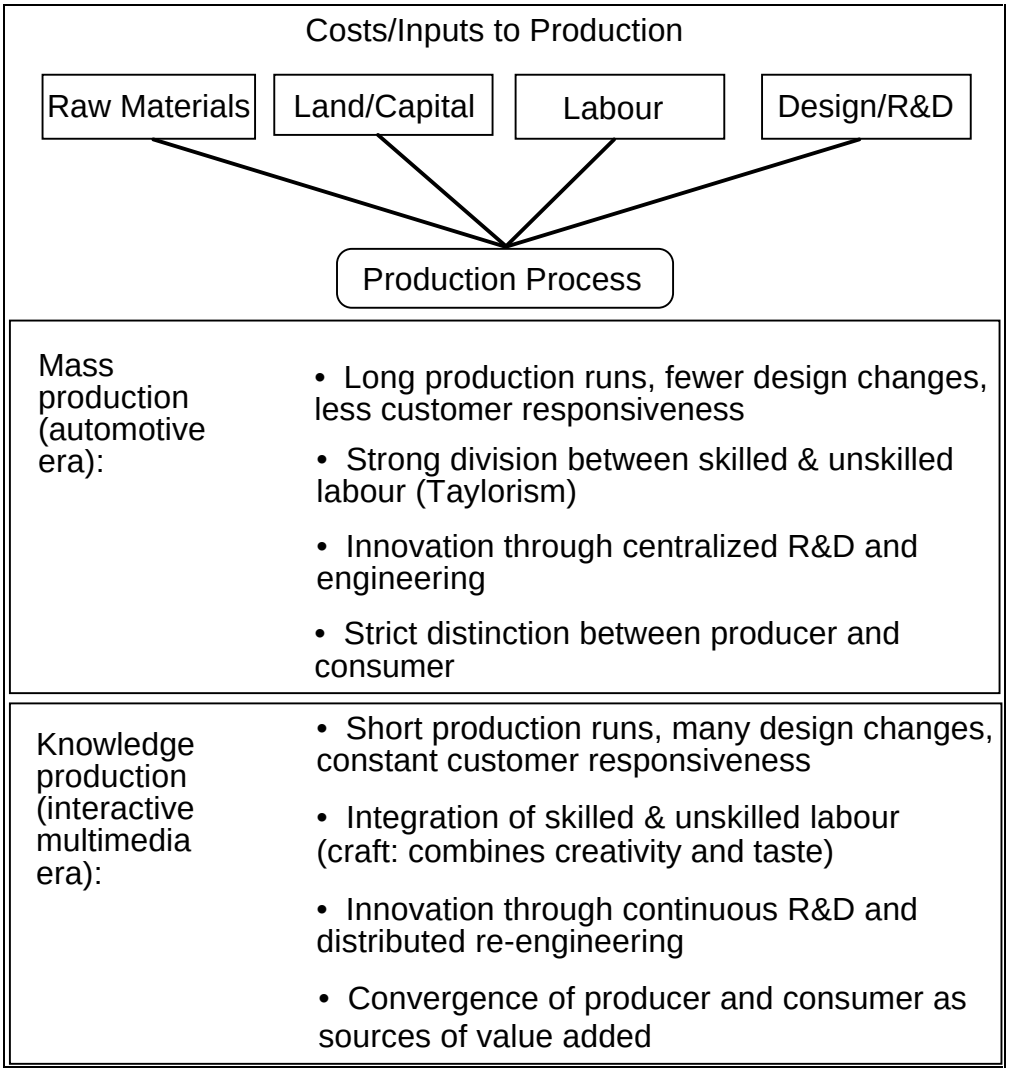
The ensemble of functions within a firm consist not only of a series of discrete products but also the infrastructure of collaboration. This is where organisation and teamwork come in. This is where the total is more than the sum of the parts. Inspiration and shared goals can generate unexpected results -- both good and bad. A clear framework and strict regimentation worked on many battlefields and marketplaces of the past. The role of the overarching infrastructure of the firm or army was clear and indivisible.

Today, the emerging networks and information technology do not change the rules, but change what is possible. New technologies that collapse space and time open up new horizons for what is economically and practically feasible. The costs of information and co-ordination are dropping. Gradually, driven forward by often brutal competitive pressure, firms are building up the infrastructure both within and outside of the enterprise for creating wealth by adding knowledge at each step in the production process. This transformation of the production process, summarised in Diagram 4, is setting in motion a series of changes that go well beyond the confines of the workplace to implicate the basic definitions of the firm and job.

There is nothing unusual about interactive collaboration in order to produce tangible or intangible products. What is different is the capacity to interact across space and time, using new tools

such as 3D simulation (virtual reality), to add knowledge from multiple sources inexpensively. Vast collaborative projects, like designing and producing a car, will not disappear. Instead the personalisation of these products will emerge from a different way of collaborating. The consumer's judgement will appear not only at the moment of sale (or prior to production through a focus group), but throughout the supply side process as it is broken down into its component parts.

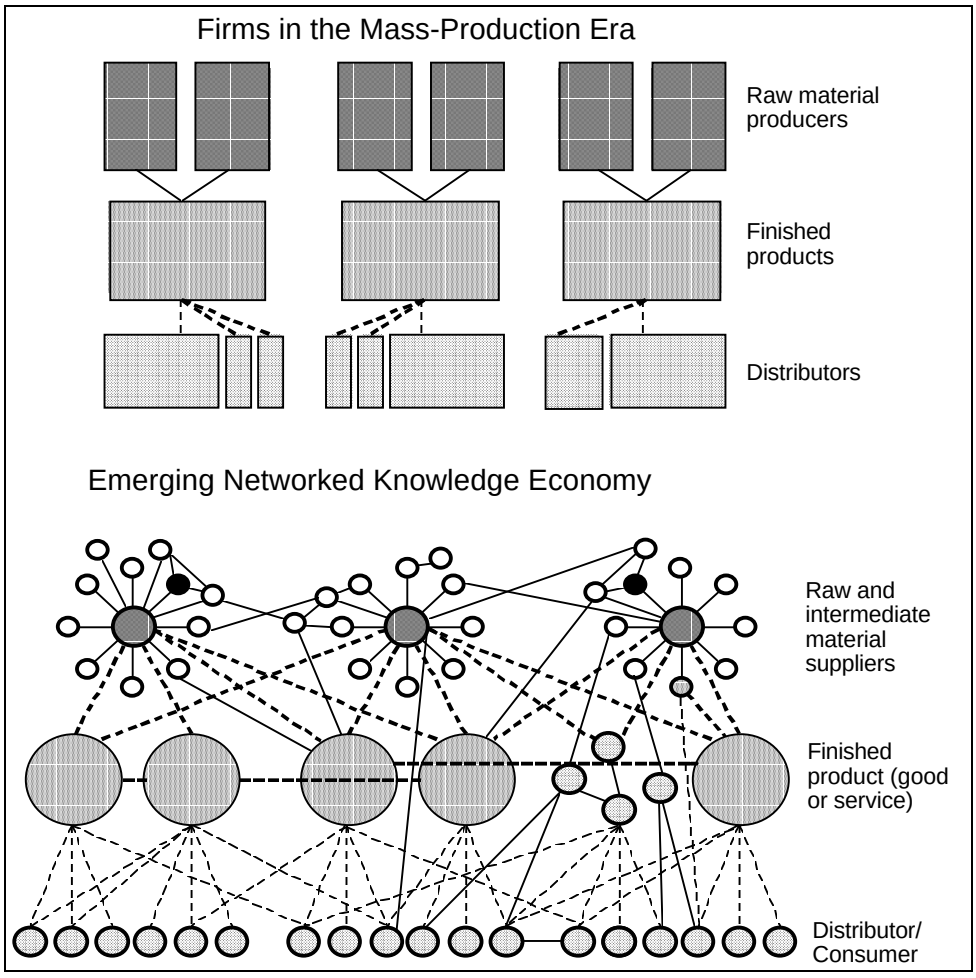
Diagram 4. Transformation of the production process -- towards the learning economy



At each stage of the value chain there is an opportunity for participation and transaction. As the production process advances your ideas get added to mine and mine get shot back across the network to you. More sophisticated software makes it possible for these two way interactions to begin to branch out to more participants and take advantage of the stored data from past interactivity. The mix gets richer, more multidimensional and -- in keeping with IT trends -- cheaper.

Riding the wave of this emerging matrix is a new type of firm. Without resolving the raging debates about the fate of today's large multi-national companies, it is clear that transactions that were once prohibitively expensive are gradually becoming cost effective on a task specific, just-in-time basis. As a result the basic organisational units of production are changing. This is the real supply side revolution depicted in Diagrams 4 and 5. Competitive pressures and innovation are dismantling the old firms and market boundaries through deregulation, mergers, bankruptcies and new upstart firms. Out of this, at times painful process, emerges the infrastructure of the KE with its new networks and re-engineered organisations. Diagram 5 illustrates one aspect of this transformation as the number and complexity of explicit transactions breaks out of the organisational umbrella provided by the mass-production firm.

Diagram 5. Transition to the knowledge economy -- micro level changes



At the centre of this maelstrom are the enabling (not causal) technologies that facilitate transforming the basic productive units (firms, workplaces) and the economy as a whole. These advances allow production to be decentralised without losing co-ordination. Recently developed tools such as interactive multimedia are leading to a more geographically dispersed yet product specific sharing of ideas, needs and collaborators. In a growing number of cases, network interactivity, intelligent agent software and the diffusion of ever more powerful computers are beginning to offer alternative solutions to the

barrier of excessively high transaction costs previously solved by the suspension of exchange relationships within the firm.

Displacing the infrastructure and information costs that justified the multi-functional, hierarchical firm as the dominant method for organising production has important implications for every aspect of economic and social organisation. To begin with the industrial structure -- the way firms are organised -- changes. The new micro foundations of the economy are able to create markets where it was impractical or too expensive before. Now specialised services and temporary task specific networks spring to life when there is a demand. Inexpensive and ubiquitous information flows facilitate changes to both sides of the transaction equation. On the supply side there are flexible networks that coalesce and disband. On the demand side there are better informed and personally articulate clients that require specific products at particular times. With a reduction in the friction, energy and cost of sharing the information and implementing the decisions needed to undertake market relationships, the spatial and temporal configuration of daily and economic life are open to entirely new patterns.

Working from where ever you happen to be, whenever you need to or want to, once described the work habits of the lonely and outcast artist. Today there is an emerging pattern, mostly menacing in its radical departure from the fixtures to which we have grown accustomed, of flexible work. There is little doubt that the KE facilitates, even requires this transformation. What is less certain is how different societies will respond to the growing precariousness of the heretofore fixed nature of where and when people worked. As the digital infrastructure reaches higher densities and much greater ease of use, there will be also be a growing economic agnosticism about space, time and organisational systems (community culture). Whether people will be agnostic about such basic patterns of everyday life remains to be seen. However, the tools for reshaping our allocation of space and time, such as the Net and inter-active media, will be there.

The Net, inter-active multimedia and the merging of consumption and production

Looking back twenty years from now it might turn out that these terms are the equivalent of James Bond's unique gadgets, used once and then thrown away. Alternatively these terms may turn out to be the basic equipment for traversing the economic terrain of the future. At this stage it is still too early to tell. What is evident so far is that a series of enabling (i.e. non-sector or product specific) technologies are emerging with the potential to play a critical role in transforming both production and exchange, supply and demand across the entire economy.

Take the Net as an example. At first glance it is a simple extension of the current phone system. What makes it different is its capacity. But what makes technical/quantitative change (digital/more bits per second) into qualitative transformation? Software and access to the services made possible by the software are the two factors that boost the Net's potential from one step up the evolutionary ladder from the telephone to ten or more steps ahead. Such a jump still faces numerous hurdles, including limited and expensive access as well as primitive software. Solving the supply side problem of universal access to the Net requires a fairly linear extrapolation of current technological and political trends over a ten to twenty year time horizon. Like electricity or phone grids of the past, putting the Net in every room of every home and office is doable, the question is when (and how much it will cost) not how (although many methods are likely to compete). On the software side -- the determinant of potential utility to consumers -- the answers do not appear as self-evident.

Generically, the emerging software solution appears to be a set of functional capabilities that are (at the moment) being called "interactive multimedia" (IM). This new technology has two major

attributes: 1) IM adds a series of richer information sharing aspects to communication, i.e. hyper-media (intra- and inter-linked databases) and high quality sound/video; and 2) IM is a two-way medium -- the interactive aspect implies not only that the user or consumer can navigate according to their needs and interests but also that there is give and take. Experience is gained. New data and knowledge are generated simply by using IM.[7]

One of the economic implications is that IM can radically alter the costs imposed by both time and space in establishing the links between demand and supply. IM also provides a new, more efficient way of connecting distinct parts of the production process. As the large all-in-one organisation decentralises, disintegrates or spins-off specific functions within its business, IM can be used to reorganise the links on the supply side of the production process. By bringing together so many changes in what and how we produce IM is what makes the Net an enabler of the knowledge economy.

This means that it is now possible to combine a richer (and less expensive -- due to reduced search time, tailoring of information format and content to user needs for more efficient learning, etc.) way of communicating with the capacity to involve the consumer of the information in the process of producing it. You are part of your virtual reality -- as one of the creators of it and a participant in it. For example, imagine using a iterative inter-active learning database to create a unique "virtual store" that is a composite of all of your favourite shops and is stocked with a full range of "personalised" products that you played a direct role in helping design or specify. Go one step further by turning your "shop", the collected knowledge of your astute consumption, into a new product by making the shop available to who ever wants to browse. In fact, for a current example that is gaining momentum, go visit the many personal "Homepages" springing up on the Net, tangible evidence that consumption now leads directly to production.[8]

A personal Homepage on the Net illustrates the critical importance in KE of learning (as you go along), building trust (sharing your knowledge for free -- mostly), and establishing better methods for human capital transparency (what are the credentials, qualifications, practical know-how of a person's Homepage). Treating the capacity to learn, trust and easily understand a person's human capital as competitive advantages takes the perspective of the market into account. But our world is more than a collection of sellers and buyers, producers and consumers, we are also people that depend on learning, trust and knowing each other in order to discover our identity and build the communities we desire. This is not to say that the KE will overcome the powerful forces of alienation and fragmentation that are so prevalent today. Rather, the point is that there are seeds within the KE of an alternative to a technology dominated wasteland. Indeed, within the KE is the potential of a learning economy.

From the knowledge to the learning economy?

What is the knowledge or learning economy? Once again the terminology has not settled into the ruts of generally accepted convention. Canvassing all of the proposed definitions and the rationales behind them would take us too far afield. All we need at this stage in our voyage is to elaborate the notion of the production of ideas by ideas. This is the nub of adding value in a knowledge economy, whether you are on the demand or supply sides of the economy. What counts is the knowledge you have of what you want and your supplier's knowledge of how to produce it, profitably.[9] Output (what you want) becomes less pre-determined (personal instead of mass-produced) and the knowledge added becomes more intensive.

For a personalised product the consumer needs to know what are the specific attributes they want. What colour, timing, style, raw material, raw material supplier, cultural symbols, price ranges, environmental impacts, etc. characterise the product. For the producer the trick is to be able to offer the consumer the information they want and then create, or find someone to create, the unique product. Instead of doing all of the work the producer now allows the consumer to enter into the process. Where the producer remains on their own is in responding to this unique demand at a competitive time and price. Simply engaging each consumer in a unique way already adds a considerable amount of knowledge to the production process. But competition from other suppliers pushes the requirements up even further. In order to compete on quality, timing and price the competitive producer will need to add even more knowledge. They will have to innovate, diffuse ideas, adapt technology, scan the competition and generally transform a vast amount of information into the knowledge that not only distinguishes them from the competition but also generates an acceptable return on the investment.

Competitive success in the knowledge economy, as Storper points out, comes to depend on the capacity to learn. He argues that:

> (t)heories of competitiveness abound today, as do descriptive monikers for the new economy: post-industrialism, the informational economy, the knowledge-based economy, flexible specialisation, post-Fordism. Though each of these labels helps in understanding some dimensions of contemporary economic activity, the logic of the most advanced forms of economic competition -- those capable of generating high-wage employment -- can best be described as that of learning. Those firms, sectors, regions and nations that can learn faster or better (higher quality or cheaper for a given quality) become competitive because their knowledge is scarce and therefore cannot be immediately imitated by new entrants or transferred, via codified and formal channels, to competitor firms, regions or nations.
>
> (Storper, p. 3)

Storper concentrates on the importance of the rate of diffusion and use of knowledge. He highlights the competitive advantages conferred on moving first or at least reacting quickly. His observations underscore the importance of two attributes that suggest a possible distinction between the knowledge and learning economy. First, as pointed out already, when the economy moves away from mass-production the consumer begins to play a greater role in determining the uniqueness of the products they want to buy. Consumers are engaged in learning about their own tastes (a critical process of self-reflection and definition -- culture) and gathering information about suppliers capable of responding accurately to their tastes (which is likely to be achieved using an interactive and iterative learning processes). Thus both of these refinements to consumption involve learning.

Second, as Lundvall stresses, learning is a social activity contingent on the institutional conditions from the household and school to the firm and social club. Thus the knowledge economy can be distinguished from mass-production on the grounds that the dominant characteristic of production becomes the incremental addition of knowledge (from both the consumer and the producer). And, therefore, the learning economy can be distinguished from the knowledge economy because the capacity to add this knowledge in production, so that consumers and producers are capable of personalising output, requires continuous awareness and self-reflection. The dual attributes of the market, demand and supply, come to depend on the capacity to synthesise that is humanity's distinguishing trait -- learning.

The extent to which this learning economy coincides with geographically circumscribed space such as a neighbourhood or local community will depend, in part, on the policies that help pioneer it. Two factors, as the case study reviewed in the next section shows, will play a major role in determining the outcome. First, is the trend towards a convergence of production and consumption which results in a significant increase in the value-added contributed by the consumer to the production process. Second, as already noted, greater involvement by the consumer will depend on the cultivation of the distinctive personal tastes that describe a unique product. This twofold movement, pulling demand and supply sides of the economy together in new ways, intensifies the role of the shared experiences that build cultural awareness.

Face to face or networked, this human contact will play an essential role in generating people's cultural capacity. Although the outcome is not predetermined, local space offers many advantages for nurturing the language and tastes that will spark additions to existing human capital. In addition, the movement away from the industrial, Taylorist hierarchy of skills towards a more personal, culturally rooted diversity of tastes may shatter the spatial and individual hierarchy of skills that undermines community development in mass-production society. Deskilling and up-skilling, intensified training and endless cycles of education may give way to a more internally generated process of cultural self-definition built on a common base of wealth creating capacity.

Breaking up some of the root causes of the old social and spatial division of labour will likely require a bold departure from many existing, public and private sector policies. From the perspective of the mass-production era, making the transition to the learning economy will probably involve something akin to a cultural "revolution." Fortunately for policy makers, unequipped and constrained as they are by the very success of the bureaucratic past, the source for developing policies appropriate to the emerging learning economy are to be found at the ground level -- in firms and front-line government services -- where people are making the daily effort to produce and survive. The next section uses a case study to bridge the gap between possible policy frameworks and the economic frontier just traversed.

CHAPTER 4. HISTORY AND LESSONS OF THE COMMUNITY ECONOMIC DEVELOPMENT SECRETARIAT (CEDS) IN ONTARIO

When exploring new territory it is often prudent to examine the records or case histories of prior adventurers. If there are any. For the most part, little attention has been paid to the human capital dimensions of territorial development policies. Fortunately, recent programs and policies provide some initial indications of what works and why. Although the factors motivating governments to introduce TD policies go well beyond the human capital issues. Governments often argue that they are attempting to adapt for public sector circumstances the creativity and customer satisfaction achieved by private sector reorganisation of the firm.[10] Here the emphasis is on managerial and fiscal innovation and cost reduction.

Another, often cited goal of TD policies is to empower communities, allowing them to create sustainable economic activity through the mobilisation of local tangible and intangible assets. In these cases, the aims and operational functioning of local employment policies tend to reveal how new forms of co-operation and broader participation can create more effective responses to economic upheaval. One example of this type of TD policy can be found in Ontario, Canada. Reviewing the experiences of the Community Economic Development Secretariat (CEDS) in Ontario reveals the links connecting territorial development, human capital and the emerging, more knowledge intensive economy.

Generalising from case studies can be dangerous since the sample is too narrowly defined by one history and location. On the other hand, as a way to start setting out the attributes of a policy framework, experience can be invaluable. Particularly, as is true of the CEDS experience, the genesis and operational challenges offer insights into institutional imperatives and attributes. Examining the experiences of this specific territorial development (TD) program highlights the concurrent shift, in both the private and public sectors, away from models of mass-production and mass-consumption (standardised and uniform systems of insurance, schooling, healthcare, etc.).

The Ontario case study shows how economies of efficient scale are getting smaller for both the producer (batch size) and the consumer (product customisation). As a result TD policies are able to capitalise on the improved viability of supply and demand networks that hinge upon knowledge sharing at a local level.[11] The CEDS experience helps to capture the implications for the public sector of private sector reorganisation of production and consumption along decentralised, customised, and innovative lines. The brief history of the CEDS outlined below helps to explain why territorial development (TD) type policies are regularly cited by public authorities as one of the ways they can learn from private sector managerial and organisational breakthroughs.[12]

Ontario, like so many other OECD regions, has been involved in a protracted period of political and economic adjustment. For Ontario, Canada's industrial heartland, the most recent recession started early relative to other parts of the OECD with a sharp downturn in manufacturing in 1989. The provincial government, faced with the first decline in absolute tax revenue in forty years and a limited capacity and scope for macro economic policies at the sub-national level, shifted emphasis to the micro level and supply side policies. This was the beginning of the CEDS story.

Policy motivation -- where does territorial development (TD) fit?

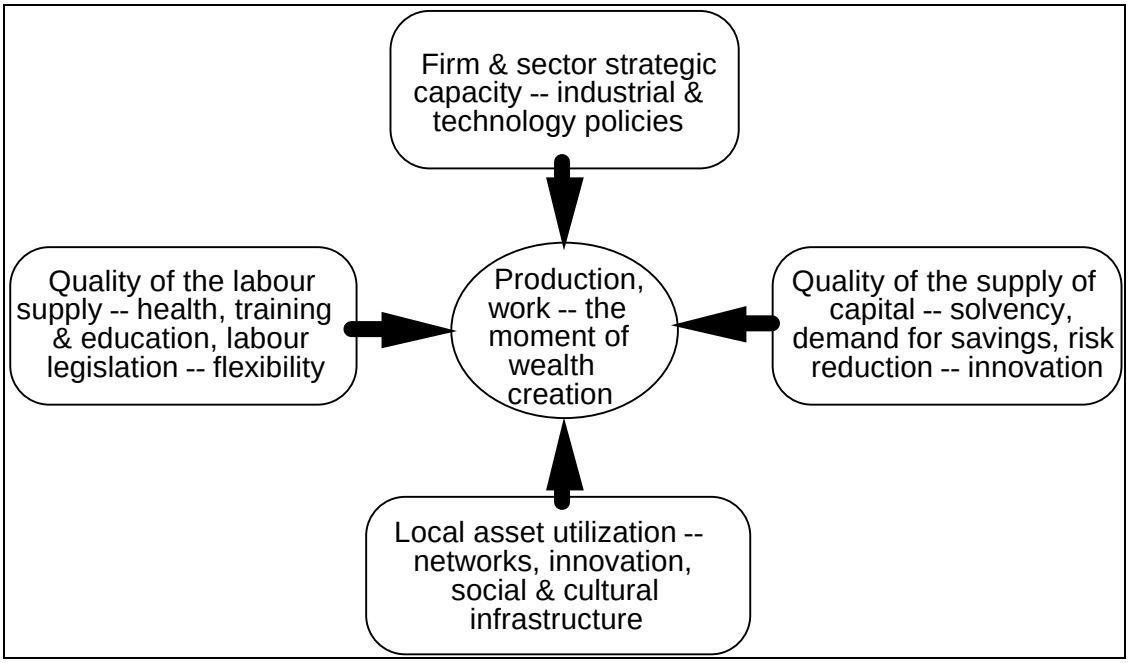
In public policy text books, if not political reality, the chapter on municipal or local government comes towards the end. After the glory of the national administration, budget and international responsibilities students, if not politicians, turned to the perfunctorily obvious need to build schools, pave roads, install sewers, collect garbage and keep street lights burning. Here was the quintessential job for the bureaucratic organiser and the vote collector around election time. Even in more decentralised federal systems like Canada the tendency has been to treat provincial and local activity as a matter of good or bad implementation of the obvious. Denied the glory of macro-policies and the pomp of diplomacy, sub-national governments have been pictured as backwaters. Certainly there were variations, some being seen as lazy or industrious depending on the fortunes of the local economy and the political stripe of the incumbent regime. But the basic message was that backwaters did not need and did not have much scope for independent or innovative policy activity.

All of this is now changing. Partly because the gloss is off the big centralised policies that used to steal all the attention. Of course local economic and political decision making has always been an important factor in determining regional well being. But it has been hard to see the role of the local level when the scale of economic and political thinking was set for the giant sizes of mega-projects, nation building and macro-economic charting of the entire economy. Today's fiscal woes and political comeuppance have knocked a peg or two from the scale of policy thinking. Down at a lower level the earth does not seem as flat. Local hills and valleys begin to take on meaning. As a result policies start to take into account the economic and social contours that shape the local activities underpinning wealth creation.

Ontario's efforts to find a sub-national approach to local development provides an interesting policy case study. One way of quickly summarising Ontario's policy framework is depicted in Diagram 6. At the centre of the diagram is the "moment of truth", the production of something -- from a car and financial transaction to clean streets and a school play. Taking the act of wealth creation as the starting point sets out a standard for considering the impact and effectiveness of a range of government policies.

Diagram 6 depicts four policy areas. Firm and sector strategic capacity covers a range of industrial policies, from the more conventional subsidies and bailouts to the less costly co-ordinating and network building initiatives. Quality of the supply of capital covers the gamut from maintaining public sector credit ratings and supervising the solvency of financial institutions to nurturing the growth of new credit sources and the availability of the information upon which risk reduction depends. Labour supply quality is influenced by a panoply of programs and legislation, including health and safety rules, access to good day-care nutrition, school quality and life-long learning propensities. Lastly, there are a slew of geographically specific interactions between government and the community that help to shape both the intensity and manner of local asset and/or infrastructure utilisation by businesses and residents.

Diagram 6. Sub-national policies influencing wealth creation



Two other facts of life confronting the Ontario Government helped to encourage TD policies. First, severe fiscal constraints meant that budgets could no longer accommodate the demands or expectations of traditional programs. In Ontario revenues dropped in absolute terms for three consecutive years. Running up significant deficits maintained the veneer of the past but not the substantive largesse. Second, perhaps more important in the long-run, citizens -- the consumer of government services -- were no longer content with the quality of the product. Without speculating here on the sources of this discontent, administrative reform was imperative. The time had come to improve public sector production processes. Program and organisational innovation were now on the agenda.

A series of systematic expenditure reviews, unleashed primarily by the relentless fiscal pressure, gave birth to Ontario's new territorial development policies. One review in particular targeted all infrastructure expenditures at the local level. Spearheaded by the government's central agencies: Treasury Board and Cabinet Office, this review dragged a number of different ministries to the cutting room table. Searching for different ways to slice and dice led to a series of possible policy rationales -- objectives and guidelines to justify reallocation, redeployment and re-engineering. Using the leverage afforded by the general climate of managerial innovation and policy despair in the face of problems resistant to conventional treatment allowed more unconventional options to be put forward. Thus was jobsOntario Community Action (jOCA) born.

jobsOntario Community Action (jOCA)

In the spring of 1993, after months of internal deliberation, the Ontario Government announced the bringing together of a broad range of programs under one community economic development umbrella. The new program was called jobsOntario Community Action (jOCA). jOCA involved the

consolidation of twenty-two programs, covering six ministries. jOCA was announced in the spring of 1993 with a commitment of C$ 100 million per year over a three-year period. As the minister in charge of this program said when she introduced it:

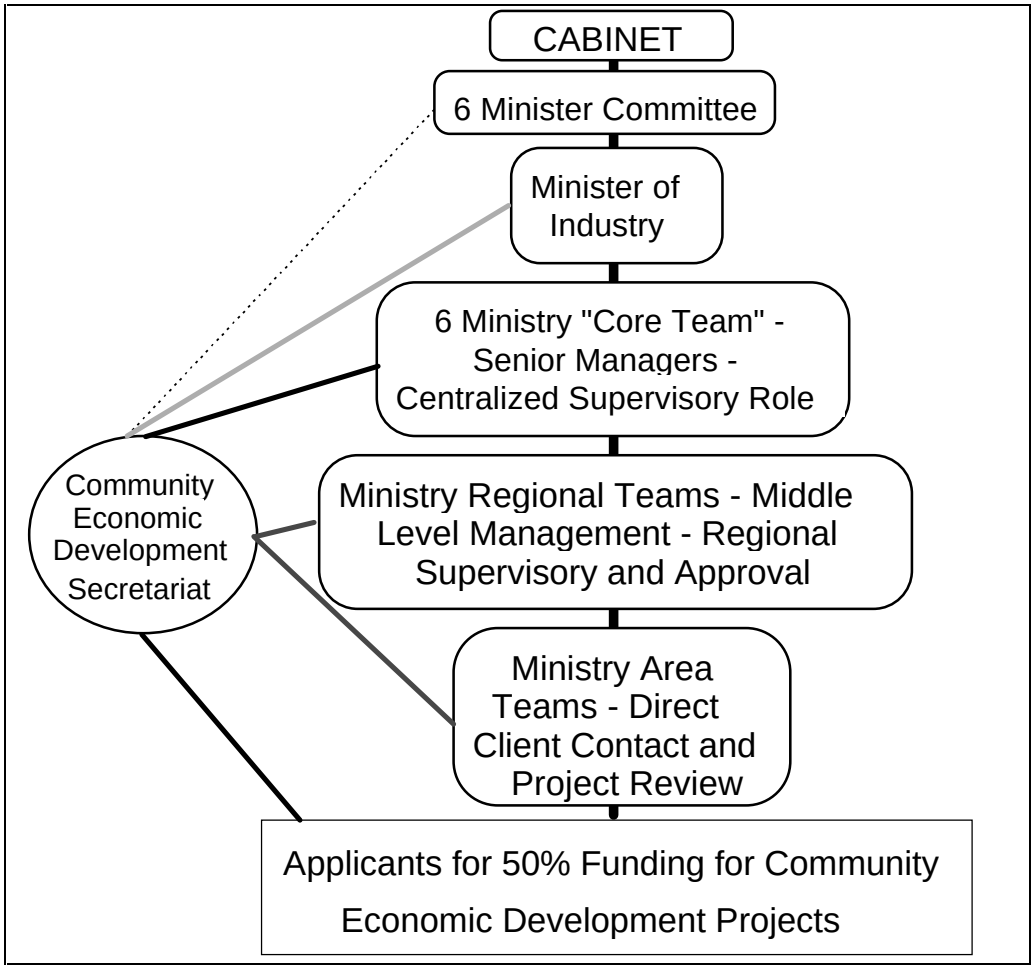
> jOCA represents a new way of government doing business with communities -- this is a corporate, government-wide approach, involving many different ministries working together as a team. We are changing the way we do business in order to better support communities and their empowerment.... assistance will be available to help build the capacity of communities to come together and set long term priorities, and to identify ways to turn local plans into actions. In order to ensure that projects are community-owned and community driven, all partners in the community must be involved in making economic development decisions.[13]

In order to help turn the ambitions into reality jOCA's C$ 300 million over three years was divided into three components: Community Development, Community Financing and Community Capital. These different parts were intended to provide comprehensive coverage of the anticipated needs of communities attempting to pursue the new TD path. The Community Development portion was intended to foster the capacity to organise, plan and implement local development. The Community Financing element promised to provide a new legislative avenue for raising bond and share capital within the community. Lastly, Community Capital offered direct assistance for infrastructure investment at the local level. Implementation of all of these components was, as usual, another long hard slog.

To cut a long "portage"[14] short, the basic administrative decision making structure that emerged for jOCA is depicted in Diagram 7. It was not very flat. Such vertical, multi-layer decision making hierarchies are typical of large, risk adverse organisations. Still jOCA's decision making structure is not entirely conventional. Two differences set it apart from more traditional programs. First, the program criteria diverged from the usual rule and form (fill out in triplicate -- please) based program. Usually the central bureaucracy establishes detailed policy guidelines, check lists and specific targets. Local staff, policy criteria in hand, then tote around a clipboard, make sure the forms are filled out properly and sometimes do a preliminary 'once over' to see if the applicant meets the criteria.

jOCA attempted to stand this process on its head. Instead of top down decision making by a distant central bureaucracy local ministry field staff were delegated to figure out what made sense for the local economy and then provide recommendations to the centre. Guidelines were provided by headquarters, but they were vague. Local staff had to ensure that proposed projects had community support, were inclusive in the sense of reaching out to typically under-served populations, and were likely to have a positive economic impact in terms of employment or investment.

Diagram 7. Organigram for the jOCA Program



Equally radical, jOCA's second departure from tradition involved breaking down the walls separating ministries. jOCA decision making throughout involved joint responsibility across six different ministries.[15] At ground level this had very practical implications. Local staff from different ministries, previously kept so far apart that they often were not in hailing distance, now met face to face. They were regularly asked to make difficult judgements calls. Using open ended, interpretative criteria they gave the initial yea or nay to projects. More often than not these community proposals spilled messily across the heretofore jealously guarded ministry turf boundaries. Conflict and confusion were inevitable.

jOCA was intended to sow new ways of thinking about local economic development. So as to harvest new ways of doing local economic development. Between the seed of a new idea and the reaping of wealth stood a range of barriers. Some difficulties arose from the dreaded paternal nervousness of senior bureaucrats steeped to the bone in the catechism of ministerial responsibility. Other obstacles, no less devastating for the actual implementation of the program, were primarily due to the untilled, almost barren, character of the local capacity for initiative. Decades of top down directives, from company or ministry headquarters, from shop floor supervisors or engineers, did not provide fertile ground for taking

initiative. In an adverse climate of government funding cutbacks, conjunctural recession and long-term restructuring of industry, the soil for planting new ideas was more than dry.

Local government staff, accustomed to the safe, predictable way of doing their business were in certain cases unwilling and in many more unable to adapt. Potential recipients of jOCA funding were equally at a loss. Either they were unfamiliar with government, having been traditionally left out of the old bricks and mortar emphasis on infrastructure building. Or, when it came to the vested local interests, they were upset by the change in the rules of the game just at a time when the recession increased their need. Ordinary citizens, regular clients of ministry programs, and a host of local organisations that make up the fabric of the community were disgruntled by this mysterious program that dumped the burden of figuring out its rules on them. How were they supposed to understand what made sense for the local economy? Building hockey arenas, paving roads, supporting the social planning council's welfare programs, all these activities worked in the past to spur the local economy. Why not now?

jOCA also heightened tensions between different groups by insisting on proof that the program applicant's proposal was "inclusive". Here the reflex was to build a Noah's Arc application with a representative from every constituency. Confusion, culture shock and latent resentments abounded. Efforts at including everyone before there was anything to do floundered on abstract debates about process, goals and methods. Diversity and competitive viability did not emerge from this type of abstract consultative merry-go-round.

At the six-month mark, program reviews revealed that where things did work was in practice. Those few projects that hit on a product or service that needed doing. The right combination of need and know-how, demand and supply. Then the coalitions sprung to life. Inclusiveness had a purpose when it brought skills, needs and co-operation together in practice. The big question was how to get it right more rather than less of the time.

The role of the Community Economic Development Secretariat (CEDS)

Experiments are risky by definition since according to the scientific method we learn as much from failure as success. jOCA, already an innovative step, was also a natural testing ground for new administrative ideas. One experimental element of jOCA involved the establishment of Community Economic Development Secretariat or CEDS. This small unit, initially composed of only five staff, was charged with the task of knitting together the various strands of the jOCA program. The team started in November 1993 by conducting a survey of some twenty communities all across Ontario.[16] On the basis of this initial assessment CEDS adopted the guidelines set out in Box 1 for its work.

Box 1. Operational guidelines for the CEDS

- stay small and flexible -- changing membership for a team that spanned the range from inside and outside the public sector to senior and junior staff of for profit and not for profit organisations
- be product specific -- identify a catalytic, dynamic person or organisation with a desire to take on practical, economically imaginable projects
- always recruit local activists to work as part of the project team
- learn by doing and visiting, assess working firms and other organisations directly, look outside the community for dynamic examples
- take an action orientation, pursue how-to type research within and by the community, avoid outside experts, planning for planning's sake and mega-projects like snaring the next General Motors plant
- confront the market, look at outside competitors, local best practice as a way to develop strategic options and practical implementation steps
- avoid setting up special funding or administrative bodies, opt for ad hoc coalitions if necessary
- do everything in the open, no secret documents or meetings, make drafts and ideas public, avoid grand surprises and mythical announcement effects
- let good ideas unlock program funding as opposed to program criteria conjuring up projects
- funded projects add value by improving the depth of understanding of local capabilities (assets) and aspirations
- encourage the development of new networks or the re-engineering of existing networks
- concentrate on sectors, products and specific markets -- linking projects into production systems -- connect to broader industrial policies and technological trends

In practice these guidelines provided considerable flexibility in the way CEDS dealt with different communities and addressed the challenges of working with various levels and departments of government. Most of all, it meant being project specific. The primary goal was to reveal community chemistry and economic logic as manifested by local demand patterns, skill mixes, cultural preferences, institutional strengths, ethnic concentrations, prices, costs, distribution systems, firm diversity, etc.. Bringing out these specific local features in ways that could spark project specific activity was no piece of cake. Partly due to limited resources and partly because it worked on the ground, the primary methodological solution for the challenge of project identification involved sponsoring pilots. These "experiments" were seen as a low risk way to encourage innovation, involve reluctant local program administrators, build community enthusiasm, quickly reach and assess the viability of practical economic possibilities and, last but not least, internalise the knowledge of local assets through learn by doing.

In the debate over "strategic planning" CEDS' guidelines tended to favour one methodology over another. Setting goals and the steps that might achieve the goals made sense. But money and time were regularly wasted hiring high-priced consultants to do surveys, write technical reports or catalogue

out-of-date statistics developed for a prior economic era. Almost as bad were massive, open-ended public brain-storming exercises that provoked a frenzy of futurism in certain segments of the community and cynicism or bewilderment in the rest. Often done using state-of-the-art participatory techniques, this type of so called "democratic planning" usually generated equal doses of technocracy and grandstanding. Generally these strategic planning exercises tempted politicians and local government bureaucrats -- from federal, provincial and municipal levels -- to find common cause with other segments of the "establishment". After all, funding for strategic planning was one of the only new sources of cash as the fiscal crisis dried up the more traditional bricks and mortar projects.

CEDS' methodology for attaining the same goal as most strategic planning efforts is easiest to grasp by way of an example. One of the very first projects involving CEDS was in the Niagara region. This economically depressed area was suffering from a general decline in its manufacturing base, a crisis in the agricultural production and processing sectors and a fall off in tourism revenue. Lacking a central urban core Niagara developed into a set of competitive and often hostile parcels of municipal fiefdom. When CEDS arrived there was a pitched battle going on between a number of different organisations all in desperate need of Ontario Government funding. For some of these organisations the sustaining programs had either withered away due to funding cuts or the needs of clients had shifted. When they heard that there was a new game in town, everyone lined up. Like most veterans of government programs they were savvy to the need to adapt their lingo to the latest twists and turns in policy. As a result they were all gearing up to do "strategic economic planning".

Strategies are fine, Niagara already had a bunch on the shelf. Each study, the product of elaborate consultative processes and analyses, was logical enough on its own. Unfortunately the goals and implementation were only marginally linked to public needs, consumer demands, producer capacities and prevailing social and economic realities. Sadly these plans tended to be wish lists compiled by hired consultants using the latest jargon to perpetuate business as usual. Worst of all, the ensuing follow-up to the strategic planning exercises had become a political football, kicked from one constituency to the next on the basis of personal allegiances and electoral expediency. Launching yet another participatory, comprehensive, multifaceted, infrastructural, sectoral and interminable study seemed ill-advised if not inimical to the region's future.

Side-stepping the political impasse and the methodological quagmire, CEDS offered an alternative. CEDS' proposal was to invite tenders for projects relating to the food chain -- from growing and canning to baking and serving (at home or at a cooked food point-of-sale location, e.g. donut shop, hospital cafeteria, hotel dinning room, tavern or fast food joint). Eligibility covered production, distribution and consumption - food anywhere in the chain and all of the networks connected to it. Partly the aim was to stop the jargon slingers and ease political tensions. But there was also the reality of Niagara's extensive and intricate food system. Past glory had faded as dozens of large and small food processors left the region. NAFTA's threat from Mexican, Californian and other growing areas with longer and more hospitable seasons loomed on the horizon. Cyclical conditions in a number of producer and retail segments were posing serious challenges to the viability of many bastions of the local economy.

Into this tense situation CEDS tossed in a small bait. Groups were asked to submit tenders on a pool of C$ 50 000 -- subject to the usual jOCA requirement that 50 per cent of the overall project costs be put up by the group requesting the funds (in-kind contributions, subject to criteria and review, were allowed). All of the many suitors for this small chunk of jOCA funding were invited to consult with CEDS and to refine their proposals in ways that dealt with specific segments of the food system. In an effort to signal a change in the decision making procedures, decisions on the winning bids were promised within two days of final submissions. From start to finish it only took three weeks from the time that the

competition was announced -- the twelve bids submitted and reviewed -- to the announcement of the four winning projects.

Each of the four winning groups received C$ 12 500 towards budgets of roughly C$ 25 000 to implement the projects in under three months. CEDS selected projects that after modest co-ordination covered the various segments of the food system in Niagara. One group looked at the growers, their supply and distribution systems. Another group surveyed food processors of all shapes and sizes. A third group canvassed the views and habits of consumers. While the last group talked with a sample of retailers, restaurant owners, cafeteria managers and farmers that retail directly in local open-air markets. Taken as a whole these projects produced the equivalent of an economic map of the local food system with its various links, gaps and strengths.

Box 2. The Niagara pilot project phases and timetable

- November/December 1993 -- request for proposals on food system
- January/February 1994 -- action research by four groups from range of organisations, covering all food sub-sectors
- March/April 1994 -- completion of an economic map of the agro-industrial system
- April/May 1994 -- political economy analysis of the food sector and refinement of action proposals for the second phase of the pilot project (initial funding of key projects)
- June/July 1994 -- issuing of final reports from phase one of the pilot project, prepare for public forum, further outreach
- August/September 1994 -- implementation of projects, reinforcing networks
- October/December 1994 -- completion of phase II projects, planning for phase III -- linking to other regions

Box 2 summarises the steps followed by the Niagara pilot project as it moved from tenders to implementation. Each step of the way involved bringing out the economic potential of the region. The aim was to deepen the demand and supply links. Taking the local interests and skills a step further by mobilising the available assets into new patterns and capabilities. The practical, market aware follow-up projects that emerged are listed in Box 3. These specific undertakings formed the basis for economically viable coalitions of interest and a diversity of projects that taken as whole encompassed the entire community. In this way the inclusiveness criterion of jOCA was realised, not by insisting that each project be Noah's Ark, but by spurring a range of different groups and coalitions to find common interests around tangible economic action.

Box 3. Examples of projects generated by Phase I of the Niagara pilot

	Niagara Peninsula Homes		**Niagara Regional Development Corp.**
1	Good Food Box -- Home Grocery Delivery	20	Sponsor sub-Sector Networking
2	Training of Apprentice Bakers	21	Computerised Food Network & Resource Centre
3	Food Enterprise Centre (FEC) -- feasibility study & business plan	22	Meat, Poultry & Fish Projects
4	Product Identification for Niche Markets -- product and consumer surveys -- R&D & design	23	Produce a Food Guide -- Objective and Critical Standard Setting
5	Incubator Kitchen -- development of food production capacity	24	Agridome -- Facility for Tourists & Industry
6	Catering Operation	25	Linking Fruit & Vegetable to New Products
7	Establish Restaurant for Training	26	Bakery Forum & New Products
8	Food Store	27	Sugar & Confectionery Forum & New Products
9	Cooking Video		**Community Development Council**
10	Food Distribution Business Training	28	Long-term Strategic Planning
	Vision Niagara	29	Public Education Program on Quality of Local Food
11	Linking Chefs & Growers -- establish committee to run forum, inventory, etc.	30	Community Development Corporation
12	Study for "Taste of Niagara" -- VQA/DOC Quality Labels, Trademarks	31	Taste of Niagara Logo
13	Market Research for Growers	32	Labels to Identify Local Products
14	Virtual Food Terminal -- Information Centre	33	Review of Federal Food Policies & Regulations
15	Promotional Campaign for Food Tourism	34	School Education Program on Food Sector & Cuisine
16	Policy Review of Marketing Boards, etc.	35	Establish a Niagara Food Policy Council
17	Establish Action Group for Niagara Cuisine	36	Expand Market for Organic Food
18	Education to Promote Food Awareness	37	Study Group on Central Selling Desk
19	Determine R&D Needs of Food Industry	38	Energy Conservation in Farming
		39	Farm Level Food Processing Initiatives
		40	Establish Farmers Market in Port Dalhousie

The Niagara pilot demonstrated a number of advantages over the endless rounds of abstract "strategic planning" and empty statistical analysis where the square pegs of reality are sanded down to fit in the round holes of the available data. Each step in the pilot, facilitated with small amounts of seed money, allowed planning to take place on the ground and in a practical way. Learning by doing demanded innovation, fuller utilisation of assets and new ways of mobilising the community. It also showed the way for other sectors and segments of the community. In this sense all that matters is making a practical start.

There is no need to fret over which sector is a winner or analyse endlessly which groups have the greatest economic potential. By valorising existing assets and setting in motion real economic activity, the Niagara project performed exactly as a pilot should. Through learning by doing it showed the way.

The experiences of jOCA, CEDS and the Niagara pilot are only one leg of this trip towards a policy framework. The experience of CEDS shows in practice one way of making sense of all of the changes that are taking place in terms of the public sector and the local and national economies. This case study takes us forward because it is a tangible example of why talking, learning, knowledge transparency and competency valorisation are important parts of TD policy. CEDS worked because it helped make better use of human capital.

CHAPTER 5. TERRITORIAL DEVELOPMENT POLICIES AND HUMAN CAPITAL -- TOWARDS A FRAMEWORK

Exchange, the lifeblood of the market, has many prerequisites. Often taken for granted, a host of explicit and implicit rules - from legal recognition of private property and the sanctions against stealing to the trust required when buyers deal with unknown sellers and regulatory compliance is enforced using limited surveillance -- make transactions possible.[17] Facilitating transactions has been a staple of state functions. Early on, in every OECD country, the state tackled the challenge of facilitating exchange by providing a reliable currency and a predictable (if not always fair) legal system for resolving property disputes. Later the state went on to play a key role in creating many of the conditions for expansion of the market economy such as building physical infrastructure, teaching basic skills and improving the health of the labour force.

At its root, the policy framework presented here harkens back to these universal functions of the state in a market economy. For a long time the vast, homogeneous blankets of national culture (nationalism), national education and national policies (from railways to bankruptcy laws) provided adequate foundations for commerce. Now, the emerging KE demands new approaches to reducing the risks and costs associated with more decentralised and mutually contingent market relationships. Encouraging the production of knowledge by knowledge (i.e. the wealth creation or economic growth of the future) will depend, in part, on state policies that lower the transaction costs and establish the pre-conditions for wealth creation in a learning economy. These new policies are distinguished from those of the past, not in terms of the generic and functional market enabling role of the state, but how to best undertake that role. Here is where innovative TD policies aimed at human capital emerge as the handmaiden to the learning economy.

In earlier stages of this analytic journey it became clear that regulating and nurturing the learning economy will necessitate significant improvements in the quality of both the signals (greater transparency) and the incentives (valorisation) associated with human capital. TD human capital policies are uniquely positioned to facilitate realisation of this goal in two ways. First by privileging cultural deepening at the local level where such expression is easily rooted in physical contact and connects directly, through proximity and shared traditions, with the intricate networks that facilitate the demand-supply convergence of personalised wealth creation. For example, the Niagara food projects connected consumers with specific cultural tastes to producers capable of learning how to satisfy that demand. Second, by starting with the details of geographically specific assets (local human and physical resources), TD human capital initiatives help to generate the types of signals and incentives essential for the learning economy. Again, the Niagara case study shows how unemployed individuals and firms with stocks of under-utilised knowledge can begin to re-evaluate the worth of the available human capital in light of potential joint production ventures.

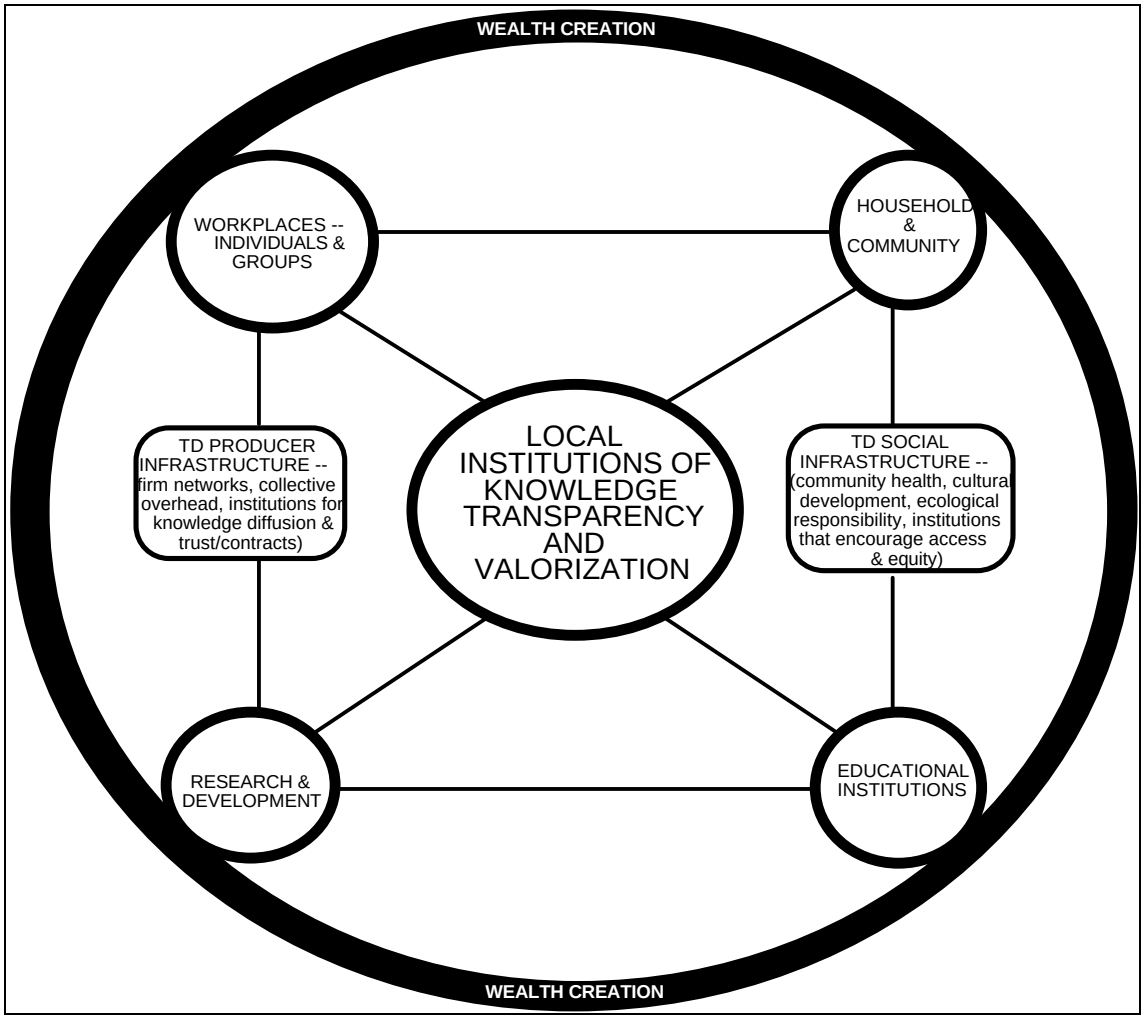
For these two reasons the local institutions of human capital transparency and valorisation are at the centre of the policy framework depicted in Diagram 8. These institutions, many of which are only beginning to emerge, are at the cross-roads of the learning economy. Also sketched in Diagram 8 are the more familiar and well established TD policies grouped under the headings of producer and social

infrastructure. Included here are the typical services and institutions offered locally such as sanitation, transportation, local citizen and enterprise associations, cultural programs, welfare offices and community health clinics. Diagram 8 places human capital infrastructure in the four quadrants of the learning supply side as seen in Diagram 1. It is in the home, workplace, school and research institute that people remember and forget, maintain and improve their stock of knowledge. For the most part, TD human capital policies have been equated almost exclusively with the supply side of the learning equation. The catalogue of policies addressed at local human resources mostly refers to such programs as school-enterprise co-operation or research networks that diffuse technical knowledge in a particular community. But, after traversing the preceding pages another panorama unfolds, one that explicitly recognises the importance of developing and encouraging innovative mechanisms for establishing human capital transparency and value.

These new institutions of the learning economy, capable of advancing the allocative efficiency of human capital decision making, still remain slightly over the horizon on most policy maps. Extending the guiding policy charts will entail overcoming certain obstacles and encouraging a bit of exploratory creativity. For instance, it is experiences with the interaction between CEDS and the KE that begin to reveal two broad types of TD human capital policy. First, there are a range of initiatives including local asset mapping, knowledge inventories, prior learning assessment systems, and human capital accounting, that **directly** increase the transparency and quality of the signals that direct human capital allocation decisions. Many of these policies are unfamiliar or hidden from view since they are the unintentional by-products of existing activities. Prior learning assessment (PLA) is a good example of an emerging institutional system that is largely ignored by economic policy and only partially exploited by its proponents in the education sector. PLA is a rapidly expanding area for the educational system as it tries to improve transferability between institutions and reduce the cost of a credential to those that already possess much of the requisite competency.[18] However, from the analytical and policy perspectives little attention is paid to the way in which such initiatives can transform the quality of the signals so essential for mobilising the local economy. Even less consideration is given to the infrastructure required to assist firms with the development of human capital accounting systems that are able to capture the particular asset mix available in the community.

A second set of more **indirect** TD policies also help to reveal the cost and relevance of human capital for wealth creation by initiating projects that invest in and mobilise local networks and culture. Experiences like CEDS show that one of the basic attributes of these production and joint venture TD policies is the capacity, at times inadvertent, to identify and build trust in existing human capital assets (often laying idle, not contributing to wealth creation in any form). These working relationships built up through TD projects cannot be mandated or legislated or effectively administered by a faceless bureaucracy ensconced in the high towers of a distant national or even regional capital. TD policy initiatives such as the CEDS that are based on fieldwork and local mobilisation are able to encourage the development of the local economy by identifying and valorising human capital in practice.

Diagram 8. Transparency and valorisation as the hub of territorial development (TD) human capital policies



A necessary but not sufficient condition for the success of both direct and indirect TD human capital policies is the development of institutions of local participation and power sharing. The advantage of locally controlled and neutral democratic institutions, like those generated by jOCA and the CEDS, is a more effective capacity to assess, validate and co-ordinate on a participatory -- voluntary basis the knowledge assets of the community. By playing such a role these TD institutions of knowledge transparency and valorisation can improve three important aspects of the production process. First, greater transparency (accurate and inexpensive information) about what people know will help both individuals and firms to be more effective in their efforts to acquire and use knowledge. Second, by introducing non- or at least less biased institutions for evaluating human capital it becomes easier to reward investments in the supply of knowledge regardless of how it was acquired (in the home or on the job). Lastly, open institutions of knowledge assessment, accounting and exchange provide a rich environment for the recognition and evolution of the cultural expression that is essential for both production and consumption in the learning economy.

All of the TD social, producer and knowledge infrastructures that make up the policy framework glimpsed in Diagram 8 also function within regional, national and frequently global contexts. Central governments can encourage the knowledge accounting and recognition necessary for the KE by developing new national and local institutions of human capital recognition. Co-operation across regions and the diffusion of experiences will play an important role facilitating the nascent institutions of human capital transparency and valorisation. But, in the end, the make or break part of the process will be at the local level where people actually make things happen. That is where skills will be recognised or left to waste and depreciate. It is at the local level that the potential, made possible by the time/space flexibility of the KE, to choose how you live and work will be translated into practice.

Many of the new rules and institutions of the learning economy will only function practically at the local level where information is rich enough to provide a foundation for substantive inter-action and decision making. Decisions taken far from a ground level knowledge of the capacity and resources of the community -- in terms of the skills and experience of workers, supplier networks, financial capability, transportation routes, etc. -- will waste precious information and tend to undermine rather than build trust. When aiming at this type of adaptable, innovative and interactive wealth creation it is essential to cultivate and use all of the available knowledge.

In the KE there is even greater emphasis on trust and transparency due to the difficulty of commodifying knowledge. The particular attributes of ideas means that collaboration based on trust is more efficient at generating knowledge based products and matching demand with supply and supply with demand. At the moment, neither TD policies nor the centrality of human capital transparency in the learning economy are broadly recognised in government or public debates. When it comes to solving local problems TD policies are being widely adopted because there are few other alternatives on offer and they work. More rapid, coherent and widespread adoption of policies that encourage human capital transparency and valorisation may require, like this short analytical expedition, a willingness to combine the insights of high altitude macro maps with the policy frameworks that can only be worked out once there is some local mud on your shoes. In the future it will be necessary to go global and local at the same time.

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ENDNOTES

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1. See also, *New Technologies in the 1990s: A Socioeconomic Strategy*, OECD, Paris, 1988.

2. See Miller, Riel, *Measuring What People Know: Human Capital Accounting for the Knowledge Economy*, OECD, Paris, 1996.

3. Ibid., see citations from acounting literature, Arthur Andersen, etc..

4. Handy's discussion of trust and the virtual organization offers seven rules for nurturing these new relationships within the firm or organization (Handy, 1995, p. 44-47).

5. Also see, Dosi, Freeman and Fabiani, "The Process of Economic Development: Introducing Some Stylized Facts and Theories on Technologies, Firms and Institutions", *Industrial and Corporate Change*, Oxford University Press, Vol. 3, No. 1, 1994, p. 22.

6. Stonemill Bakery, Richmond Hill, Ontario, Canada.

7. Netscape, the Internet navigating software is a good example of a primitive interactive software. Bookmarks can store where you have been and hyper-links to different sites allow you to interact with expected and unexpected sources of information. Leaving messages, sending e-mail, filling out response forms are all still fairly primitive, as are the search engines that depend mostly on your constant input, but the contours of a richer IM future are beginning to emerge.

8. A Homepage is a window on your computer screen and into the world that the person creating the page wants you to see. As you "surf the Net" you click your way from one Homepage to the next, hopping from the window in China on the Bejing Women's Conference to the map of Paris, with its Metro guide and tourist events, to a personal page set up by a student at Standford University in California to flog her resume to anyone willing to take a look. So far most people, even in OECD countries do not have a clue what this is about. But if you are curious, look up the cyber cafe or local college and go take a look. You will find plenty of people surfing the Net in your community if you look around.

9. At this level of analysis the distinction between public and private suppliers is legalistic rather than organizational. In other words, these producers are distinguished by ownership and incentive systems that from the consumers point of view are only important if the product is not personalized to their needs. There are many organizations, public and private which fail to meet the expectations of their market. Equally, there are many transactions -- relationships between supply and demand -- that are outside of monetary markets. This does not mean that greater personalization would not be welcomed. I'd like dinner to be to my personal taste. This may be possible, but usually only if I cook dinner myself or if I am able to specify my tastes to the cook. The point here is that personalized meals are more knowledge intensive, whether cooked at home or in a restaurant.

10. Gouvernement de l'Ontario, Ministère du Commerce et du Développement Economiques, 1er juin 1993.

11. A substantial, well-documented and growing literature chronicles and analyses many aspects of CED policy and the economic logic behind it. See references in the bibliography to Murray, Robin and the OECD.

12. For extensive coverage of these policies see LEED and ILE documents from the OECD.

13. Ibid.

14. “Portage” is the term for that onerous moment when travellers using a canoe must traverse solid ground in order to reach the next lake. A portage involves carrying the canoe and all of its contents over land to the next body of water.

15. The original core group of ministries that participated in jOCA administration directly included: a) Agriculture, Food and Rural Affairs; b) Citizenship; c) Culture, Tourism and Recreation; d) Economic Development and Trade; e) Municipal Affairs; f) Northern Development and Mines.

16. See Community Economic Development Secretariat, Ministry of Economic Development and Trade, Feb., 1994.

17. “The amounts and kinds of information needed for the efficient allocation of labor, whether judged from the viewpoint of the laborer, the employer, or the community, extend far beyond the determination of wage rates. The kinds and amounts of skill men should acquire pose parallel informational problems, and so too do the non-monetary conditions of employment. The traditional literature has not done these problems justice. It is doubtful that justice would be more closely approached by making exaggerated claims of the importance of the problem of information. There is no exaggeration however, in the suggestion that the analysis of the precise problems of information an dof the methods an economy uses to deal with them appears to be a highly rewarding area for future research.” (Stigler, George J., “Information in the Labor Market”, Journal of Political Economy, Vol. 70, No. 5, Part 2, October 1962).

18. For a more in-depth discussion of prior learning assessment and other emerging systems for validating competences see both Colardyn, Danielle, La gestion des compétences -- Perspectives internationales, forthcoming and Miller, Riel, Investment Knowledge and Knowledge Investment, OECD, forthcoming.