Human capital report cards for American states

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Abstract. A theoretical and empirical basis for comparing stocks of human capital in the American states is developed. Human capital report cards are measurement tools allowing states to benchmark their production and retention of the knowledges, skills and abilities required by economic development and public education policy making. A prototype report card is created from 12 indicators – seven of which theoretically capture a ‘basic’ dimension of human capital and five of which measure ‘complex’ human capital. Principal component factor analysis reveals that for the 50 states in the 1980s the concept of human capital is a multidimensional construct rather than a unidimensional one and that ‘basic’ and ‘complex’ factors do in fact distinguish the major cleavages among human capital measures. A further finding is that the relative positions of the 50 states can be plotted on the two dimensions with practical payoffs accruing to state and local planners.

Students of economic development are unanimous in the conclusion that promotion of developmental objectives depends on the creation of an increasingly sophisticated knowledge-based economy characterized by knowledge intensive products, complex organizational arrangements, and smart and flexible production processes that constantly change in response to market needs and opportunities. This knowledge-based economy, in turn, requires a workforce transformation wherein human capital assets are produced to meet the requirements of the post-industrial order based on a mastery of formal knowledge, trained skills, and natural and acquired intellectual abilities (Drucker, 1968; Schultz, 1971). Thus, human capital production underlies much of the current debate about the transformation of public schools and workforce training programs as engines of economic development (Commission on the Skills of the American Workforce, 1990). Measuring and reporting critical dimensions of human capital have become key features of policy making for economic development, public education, and workforce training.

Can a human capital report card for states and localities be developed from existing data sets and statistical series? Our tentative answer in the affirmative is defended by presenting four preliminary findings from cross-state comparisons. First, the general problem of report card construction is discussed in the context of the development and use of indicators to guide and inform social action. Second, an enumeration of the human capital dimensions most appropriate to include in any report card prototype is offered in order to define the measurement problems that confront report card construction. Third, a prototype measurement system is presented for a subset of data as a means of establishing an approach to report card calibration. Finally, several
conclusions about potential report card use are offered as a basis for assessing the prospects for human capital report card creation.

1. General notes on indicator development

Report cards differ from other social measurement schemes in several respects. First, report cards have characteristics of social indicators (Bauer, 1966; Gross, 1967; 1969), that were produced during the 1960s and 1970s. Social indicators attempt to provide measurements of social life at a level of precision comparable to economic indicators. The general aim was to develop 'yardsticks' suitable to the task of assessing 'where we stand and are going with respect to our values and goals, and to evaluate specific programs and determine their impacts' (Bauer, 1966: p. 1; Andrews and Withey, 1974). The social indicators movement envisioned the development of a comprehensive 'regular trend series of social indicators, whereby comparisons from time to time and across societies could be made' (Bauer, 1966: p. 21). Resulting social reports were supply-side driven, however, in the sense that their origins began with attempts by technical experts to derive measures of health, welfare, education, and social well-being from government statistical series (U.S. Office of Management and Budget, 1973; U.S. Bureau of Census, 1977). Social indicators were simple measures devised largely to serve a research purpose by resolving technical measurement issues. Inasmuch as they were not constructed with specific end-user needs in mind, initial indicator series were of uncertain practical value even though one ambition was to inform resource allocation decisions by showing where marginal resource outlays might yield maximum welfare gains. However, because analysis suggest that social indicators should not (in 't Veld, 1993) and could not serve (Rivlin, 1971) such a purpose, the ultimate goal of indicator driven budgeting has proved elusive.

Modern report cards also contain elements of policy indicators (MacRae, 1985), which emerged during the 1980s as a measurement strategy that moved away from a supply-side exercise controlled by expert policy analysts and technicians toward development of indicators required by end-use practitioners. Whereas social indicators concerned themselves largely with scientific accuracy in significant broad policy categories, policy indicators sought explicit linkages between measurement and the evaluation needs of public decision makers. At least four distinguishing characteristics of policy indicators can be found (MacRae, 1985: pp. 4–9):

1. Problem specific data are organized into information sets;
2. Indicators are cast in a form that facilitates the development of inferential knowledge required by end-use decision makers;
3. Indicators measure conditions whose policy significance consists either of a valued end-state, a process, or a 'contributory value' to a final end-state or process;
4. Policy indicators frame policy action options.