THE ORGANIZATION OF AN INDUSTRIAL WORK FORCE FROM AN INDIGENOUS, NONINDUSTRIAL POPULATION: THE ECONOMICS OF EMPLOYMENT, MANPOWER, AND ECONOMIC DEVELOPMENT IN ALASKA

by

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PRELIMINARY DRAFT

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Two different branches of economic thought have contributed to our understanding of Native worker behavior in Alaska's labor markets. One branch is concerned with the economics of lesser developed countries and is associated with the issues surrounding economic development. The second is concerned with the economics of poverty and is associated with the issues of employment and manpower. Both branches of thought have their orthodox and radical schools and both have been influenced by sociological and anthropological research. Neither, it will be argued, is able to explain adequately the labor market behavior observed among Native workers in Alaska. It will be also argued that this inadequacy stems from the almost exclusive concern with a supply side perspective of labor markets by both orthodox and radical investigators, and a consequent misinterpretation of much of the non-economic data we have about labor market behavior.

In developing these arguments, this chapter is organized as follows: The first section will review the development of theories of employment and manpower and discuss some common methodological and conceptual problems involved in both the orthodox and radical models. The second section will do the same for theories of economic development. The third section then presents an alternative model which both explains labor market behavior in the context of Alaska's developing economy, and demonstrates the appropriate context for incorporating sociological and anthropological information into economic analysis. The final section contains the summary and conclusions.

THEORIES OF EMPLOYMENT AND MANPOWER

For almost two decades following the end of World War II, the full employment of labor in the United States was treated as a problem of aggregate demand management (Wallich, 1966; Mangum, 1976; Ulman, 1976). The demand for labor (and all other productive factors) was straight-forwardly derived from the final demand for goods and services in the economy; so long as total spending (or aggregate demand) remained sufficiently high, it was assumed that labor of all skill levels and types would be fully employed.[1] Specific labor markets associated with specific occupations or industries were recognized to exist, of course. In each, the quantity of labor employed was determined at the point where labor's marginal revenue product equaled its wage. Changing conditions could cause the demand for labor in a specific labor market to alter, and this would produce changes in wage rates. These wage changes would then either attract additional workers or cause existing ones to seek employment elsewhere. The movement of workers between competing firms, including firms in different labor markets, would cause them to be distributed according to their skill levels, with those employed at the highest marginal revenue products receiving the highest wage rates.[2]

The possibility that employers might base their hiring decisions on non-economic factors such as race or sex was treated as a short-term irrational phenomenon that would be eliminated by competitive pressures. Equally, the utility maximizing motivations of workers would cause them to seek those jobs which offered the highest rate of return per hour worked. Competition among employers for the most productive workers and among workers for the best paying jobs would cause all labor markets to clear (given a full employment level of aggregate demand) solely on the basis of the natural abilities and educational training of workers. Orthodox theory therefore led one to expect to find a labor force, substitutable at the margin, moving between employers in response to changing wage rates until all labor markets had cleared. And further, this would be true for all types and classes of labor.

By the 1960s, however, emp~~h~~irical research into the functioning of U.S. labor markets was uncovering patterns that were at odds with this orthodox conceptualization. ~~of labor market behavior.~~ The post-war decade in the United States witnessed a growing body of both cross-sectional and longitudinal data describing the employment status of the population classified by such socioeconomic characteristics as sex, age, and race. These studies "clearly disclosed that unemployment had a 'characteristic structure.' Unemployment rates were higher at all times among youth, women, non-Whites, the unskilled and the less educated; so these groups accounted for greater proportions of the unemployed than of the labor force" (Abramovitz, 1976, pg. 28).

At the same time these ~~empirical~~ socioeconomic data were being published, another group of economists were arguing that high unemployment rates were caused by structural rather than aggregate demand problems. They contended that the mix of jobs in the nation's labor markets had been sufficiently altered by rapid technological change that the skills and experience possessed by many workers were no longer in demand by many employers (Killingsworth, 1965). Although their investigations were initially prompted by a concern with technological change, these researchers began uncovering a consistent body empirical data indicating that the substitutability of labor was much less than had been previously assumed. Rapid skill obsolescence (or the lack of skill acquisition) could result in long-term unemployment for large groups of workers during all phases of the aggregate demand cycle.

The final empirical challenge to the orthodox conceptualization of labor markets came from research into the economics of poverty that came out of the policy concerns of President Lyndon Johnson's

"Great Society" programs. These studies usually focused on individual communities, were directed at explaining the phenomena of urban poverty and unemployment, and often were the work of social scientists other than economists (Gordon, 1972, Chpt. 4). ~~These studies~~ They revealed a persistent dichotomization of labor markets into what came to be called the "primary" and "secondary" sectors, and showed that there was little movement of workers between them (Piore, 1971). Labor shortages in one sector could persist for extended periods of time without inducing a movement of underemployed or unemployed workers from the other sector. Furthermore, this research identified the behavior of workers as well as the characteristics of jobs (wage rates, hours of work, capital-labor ratios, etc.) as an important determinate of persistent unemployment.

In the face of these empirical findings, orthodox labor market theory provided little help. Under its assumption that at full employment the workings of all markets can best be examined through use of a competitive marginalist model, persistent differentials in wages, income, and employment based on individual characteristics unrelated to worker productivity (such as race, sex, or age) should not be observed. Yet by the 1970s, it was impossible to ignore the evidence that such persistent differentials both had existed and continued to exist.

Faced with this apparent anomaly, two alternative explanations were developed: the orthodox response and the radical response. In addition, an alternative model of labor market behavior--the dual labor market hypothesis--was proposed. This hypothesis, which came out of the poverty research of the late 1960s and early 1970s, could be viewed as an extension of either the orthodox and radical models or as an independent theory in its own right (Gordon, 1972; Cain, 1976).

Starting with the orthodox response, the major arguments came to be known as the theories of "human capital" and "discrimination." The origins and development of these theories have been well documented (Blaug, 1976) and need only cursory review. Starting with the central idea that people spend their current incomes not just for the pleasure derived from current consumption but also to increase future income,* human capital theory "adds up to an almost total explanation of the determinants of earnings from employment" (Bloug, 1976, pg. 832). When coupled with the theory of discrimination, the analysis goes as follows: discrimination by majority employers is defined as the employer's willingness to sacrifice profits by either paying wages higher than otherwise necessary or accepting less qualified workers (Rees, 1979, pg. 169). Since the costs of discrimination (in the sense of foregone profits) are voluntarily borne by the employer in order to indulge his or her taste for discrimination, there is no competitive market force that will cause this to change. At the same time, the discriminatory behavior of employers (as well as fellow employees and consumers) lowers the rate of return on education for minorities and causes them to invest less in education, even where it is available on equal terms (Rees, 1979, pg. 174). This lowers the human capital embodied in minority workers and consequently reduces their lifetime earnings profiles. The orthodox response consequently was a demonstration that so long as (a) employers bore the full costs of discrimination and (b) workers rationally invested in themselves based on their expected rates of return, the persistence of employment and wage differentials was not incompatible with the assumptions of the competitive marginalist model.

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*By defining income as the total pleasure (utility) received from the sum of all pecuniary and nonpecuniary actions (transactions) taken by an individual, the theory has been extended to include everything from marriage to heroin addiction (Stigler and Becker, 1977).

The radical response asked a different set of questions and consequently arrived at a different set of answers. Rejecting the orthodox model on methodological and historical grounds (Dobb, 1963; Sweezy, 1970), radical economists asked the questions: "Who has what kind of power in this situation? How have individual choices been channeled by the institutional setting in which people act? Can we identify the dialectical contradictions inherent in these events which seem likely to produce qualitative changes in their character?" (Gordon, 1972, pg. 19.) In part, these questions reflect the different intellectual antecedents of radical and orthodox thought. The antecedents of modern orthodox analysis are the assumptions of the neoclassical comparative statics model where fundamental institutional arrangements, such as property rights and political systems, are fixed during the analysis. The antecedents of the radical analysis rest in the dynamics of the classical model where the growth of population, the shortage (i.e., rising real price) of land, and similar forces both could and would cause alterations in an economy's fundamental institutional arrangements.

In part, however, these different questions also result from an emphasis on different markets. The orthodox model puts the goods and services market onto center stage and the key players are profit-maximizing businessmen and utility-maximizing consumers. For radical economists, however, center stage belongs to the factor market and the key players become capitalists whose exclusive motivation is accumulation and workers whose motivation is to obtain good jobs.[5]

The first dialectical contradiction asserted by ~~in~~ the radical model occurs because workers define a good job as one in which "man achieves his fullest self-realization through work" (Gordon, 1972, pg. 62). Capitalists, however, are motivated by the accumulation motive and driven by competition, seek for an ever greater division of labor as a means of increasing productivity.[6] The conflict occurs because the increased division of labor alienates workers from the products of their effort. It creates bad jobs. Furthermore, this conflict cannot be resolved through relative price and income effects. A worker cannot afford to "buy" a good job (in the sense of negotiating an employment contract with an employer which exchanges good job conditions for lower wages) unless his or her earnings rate is above some minimum level. The only way for the worker to achieve a higher earnings rate, however, is to allow for a greater division of labor. The greater the worker's ability to buy a good job therefore the worse becomes his or her alienation from the entire work place.

The second dialectical contradiction is that the capitalists' drive for accumulation leads to the creation of increasingly large production units in which large numbers of workers function as an interdependent and cooperative group. Through the familiarity of constant interaction at the job, workers will identify the commonality of their interest in creating good jobs, and their mutual hostility to the accumulative goal of capitalists. Again, price and income adjustments will not bring these conflicting forces into balance. Competition and the accumulation motive cause capitalists to employ large numbers of alienated workers in interdependent and cooperative endeavors, making it only a matter of time until the workers organize to seek their collective goals through nonmarket (political) means.

In the radical model, these contradictions threaten the stability of the entire capitalistic system, and they require an institutional solution if the system is to survive. Under conditions of advanced capitalism, a major institutional solution has been the segmentation of labor markets (Gordon, 1982, pg. 73). As such distinctions as blue collar and white collar became increasingly blurred, capitalists turned to the use of readily identified ethnic, racial, or sexual characteristics as the basis for segmentation. Within the radical model, changes in the law which make discrimination more difficult (costly), coupled with changing public attitudes that reduce employers' tastes for discrimination, imply the inability of existing institutions of labor market stratification to defuse the dialectical contraditions still present in the system. Unlike the orthodox model which asserts market solutions compatible with both stratified and nonstratified labor markets (and by implication, the system's institutional stability), the radical model predicts some institutional reorganization if the system is to survive.

The differences between the orthodox and the radical models seem vast. One is a model of continuous incremental changes in a world whose fundamental institutions are constant. The other, a model of large changes which cause fundamental institutions to be altered. Yet, they share one significant commonality: they both see casuality flowing from labor (workers) as an input to the production process. A change in the preferences, quality, or quantity of labor in the orthodox model will cause price and income effects resulting in both altered factor combinations and changes in the mix of goods and services produced. In the radical model, a change in workers' subjective class awareness will cause institutional changes to reduce that awareness if the system is to survive. In neither model do the resulting changes feedback ~~nor affect~~ upon the motivations of the workers.

Both the orthodox and the radical models share a heritage of classical economics, and both share the classical tradition's preoccupation with the means of production (SP? Boumol, 1951). Workers arrive in the labor market with a given set of ascribed motivational attributes. In the orthodox model, they seek to maximize total utility; in the radical model, they seek to obtain good jobs. Thereafter, the behavior of labor will change as different exogenous or endogenous conditions are specified, but its motivation remains unchanged. The motivation of labor (as well as all other players) in both the orthodox and radical models is invariant with respect to the structure (institutions) of the phenomenon being investigated. The sequence of casuality in both models is the same: labor is an input to the productive process; changes in the productive process will cause a change in the behavior (subjective class awareness) of labor but not in its motivation. Because the psychological motives attributable to labor never change,* both models approach their analysis from a ~~"supply~~ demand side perspective~~"~~ of the labor market. The question asked is always "how will changes in labor (worker) behavior cause changes in the production process (the social conditions of production)?" The question that neither model asks is how (or if) different production processes affect the motivation of labor. This is the question that the dual labor market hypothesis addresses (at least in part), and it is what makes the hypothesis methodologically unique.[7]

Dual labor market research begins to address a ~~"demand~~ supply side perspective~~"~~ of the labor market.[8] It seeks to demonstrate a chain of casuality that runs from the conditions of employment (the production process) to changes in the motivation of labor. Labor markets are not only places of exchange where services are bought and sold; they also are a set of institutions which condition (in the sense of altering the motivation of) worker~~s~~ attitudes~~,~~ ~~motivations, and work habits~~ (Cain, 1976). ~~A~~ Dual labor market researchers ends up spending as much time describing characteristic worker patterns as they do characteristics of the job site. Furthermore, these characteristic worker patterns are not seen as exogenously given, but are a function of the job site conditions. "The effects of discrimination, other systematic factors, or even random factors that start workers off in the secondary sector (that is, in 'bad' jobs) can shape tastes in an antiwork direction and, thereby, reinforce the disadvantaged position of low wage workers." (Cain, 1976, pg. 1,223).

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*Or are assumed to be the providence of psychology, anthropology, sociology, or other social and behavioral sciences, but not economics.

~~In applying a demand perspective to the labor market~~, The dual labor market hypothesis ~~has~~ Thus raised questions about motivations (in the orthodox model they are called "tastes and preferences," in the radical model, "self-fulfillment through work") that have been traditionally outside the inquiry of economists. Motivation has been studied by psychologists on an individual level; anthropologists on a cultural level; and sociologists, political scientists, and urbanologists on a collective level; but it has not been studied, or allowed to vary, in economic analysis. It is from a ~~demand~~ dual perspective of labor markets, consequently, that the most fruitful interface between economics and other social sciences can occur.

If we take a supply perspective of labor markets, both the orthodox and radical models constrain us from incorporating information about motivational shifts. Both models fully specify the psychological motives assigned all players, and they are invariant throughout any analysis conducted with either model. If we wish to include information from anthropology or the other social sciences into our analysis of labor markets, a ~~demand~~ dual perspective is required. It will be subsequently argued that the use of such information is essential to understand the behavior of Natives in Alaska's labor markets. First, however, it is necessary to turn to another main branch of thought to be reviewed: theories of economic development.

THEORIES OF ECONOMIC DEVELOPMENT

"The systematic study of the problems and processes of economic development . . . has emerged only over the past three decades" (Todaro, 1981). It grew out of a concern that many of the nations newly formed after the second World War had gross national products per capita both (a) significantly below those of the world's industrialized nations and (b) so low that they were unable to assure the subsistence and material welfare of their populations.

The early attempts to deal with the problem of development consisted of transforming the Keynesian aggregate demand version of the orthodox model from a static into a dynamic system (Harrod, 1939, 1948; Domar, 1946). It became increasing evident during the decade of the 1950's, however, that the analysis of warranted rates of savings growth simply did not confront the problems of the world's lesser developed countries (LDC's). By 1965, John R. Hicks wrote, "Underdevelopment economies is a vastly important subject, but it is not a formal or theoretical subject" (Hicks, 1965, pg. 3), and he suggested reserving the term "growth" for the formal analysis of the dynamic properties of developed industrialized economies. The analysis of problems confronting LDC's, he suggested, constituted "a practical subject which must expect to call upon any branch of theory (including non-economic, for instance sociological theory) which has any relevance to it" (Hick, 1965, pg. 3). The name he suggested for the study of this "practical subject" was development economics.

By and large, Hick's suggested nomenclature has been followed. Growth theory evolved into a highly formal, mathametical, and elegant analysis of the dynamic properties of orthodox economic models (Hahn and Matthews, 1967; Nelson and Winter, 1974). Economic development (on the other hand) has become an applied, inelegant, and eclectic study of the specific conditions perceived as barriers to reducing the per capita GNP differential between the LDC's and the more industrialized nations. Recently, questions have even been raised about the economics orientation of development studies, and whether we should be more concerned with the political and social institutions that influence income's distribution instead of the economic institutions which influence its level.[9]

Because of its practical and policy oriented nature, the field of development studies has not developed generalized economic models of the development process. Bauer and Yamey's comment in 1957 that "there are no special economic theories or methods of analysis fashioned uniquely for the study of the underdeveloped world" (Bauer and Yamey, 1957) holds as true today as it did then. It is possible, however, to classify most development research and theory into one of the following general approaches: orthodox, radical, or institutional. Because each of these approaches contains assumptions which influence what they have to say about the workings of labor markets, its worth quickly reviewing their major arguments.

The orthodox approach contains two major types of analysis, one based on the classical model and the other on the neoclassical model. The classical model is associated with W. Arthur Lewis (1954; 1958) who argued the economies of LDC's could be characterized as containing (a) a traditional rentier class with high incomes and little, if any, savings; (b) a working class with low incomes and little, if any, savings; and (c) an emerging capitalist class with high incomes and high savings. Savings are equated with accumulation. Increased capital to labor ratios are assumed causal for increased productivity. The stage setting for Lewis' model has a few capitalists existing like "little islands" in an economy where most workers are engaged in agricultural subsistence activities. The process of economic development involves the mechanisms by which labor shifts from the subsistence agricultural sector to the capitalist sector. The primary mechanism for Lewis is that there be a high price elasticity of supply for labor. So long as there are large supplies of subsistence labor relative to the capitalist sector's labor demand, the wage rate paid by capitalists will remain below labor's marginal product. The difference will become capitalist profits, which will go into further savings. These savings will go into further accumulation which will cause further increases in productivity. In Lewis' classical model, "The central fact of economic development is that the distribution of incomes is altered in favor of the saving class" (Lewis, 1955, pg. 157).[10]

Beginning with Meade (1962), the neoclassical model has produced a rich literature concerned with economic growth, but it has not been applied with much success to the problems of development (Fusfeld, 1977). In large part, this results from the model's assumption that the fundamental institutions of an economy are fixed. This has resulted in either (a) ad hoc studies of specific problems to determine the conditions of optimal use of existing resources (e.g., McDiarmid, 1977), or (b) broadly political prescriptions that governments should not interfer with the (assumed efficient) workings of the market place (Hagen, 1980, chpt. 5). One well known attempt was made to apply the basic tenets of neoclassical reasoning to a historical explanation of the development process. W. W. Rostow argued that the development process consisted of five distinct "stages" (beginning with a traditional society and culminating in a high mass-consumption economy) that had to follow one another in a necessary sequence (Rostow, 1960). After some initial enthusiasm, Rostow's stages were realized to be an arbitrary classification of the historical growth of western European (particularly England's) economies rather than a theory of development (Hagen, 1980, pg. 81).[11] The neoclassical model with its comparative static analysis consequently is often used for investigating the conditions of efficient short-run resource utilization in a world of fixed institutions, but is generally regarded as the wrong model for understanding the process of change usually associated with economic development.

The radical approach to economic development begins with a model not essentially different than the classical one developed by Lewis but with the state explicitly added. In the radical view, the state "operates ultimately to serve the interests of the controlling class in a class society" (Gordon, 1972, pg. 61). The play opens with two types of state: s ones in an advanced level of capitalist development, and ones which are traditional (i.e., lesser developed). The advanced capitalist states have surplus productive capacity seeking markets, and investment funds (surplus value) seeking higher rates of return. They use their political power to (a) obtain both from the traditional states and (b) maintain the traditional states in a continual relationship of economic dependency. Earlier radicals (Sweegy, 1942; Baran, 1957) argued that the political power of the advanced capitalist states would prevent any real growth from occuring in the traditional states. As this conclusion became less viable both emphirically and analytically, [12] the approach was modified by assigning a more active role to the traditional states' rentier class (Amin, 1974; 1976). The institutions of the state in the traditional nations are used to insure that the nonaccumulating rentier class capture ~~any~~ most additional surplus value that's produced. In either case, the radical model of development involves some alteration in political institutions as a necessary (if not sufficient) condition for economic development.

The institutional approach to economic development involves a different intellectual tradition than either the radical or othordox orthodox approaches. It developed in the United States, around the turn of the century w writings of T. Veblen, J. R. Commons, W. C. Mitchell and J. M. Clark (Boulding, 1957). These writers objected (although in different ways) to what we would now call the gross under-specification of orthodox economic propositions. Starting from a common perception that an industrialized economy involves both: (a) a social organization of society, as well as (b) a mechanism for the efficient production and exchange of goods, "they urged the study of major problems of economic change and policy through comprehensive historical, psychological, and emphirical methods" (Hill, 1957, pg. 16). Essentially, the institutional approach sees economic development as a continuous process which results from the pressure for change generated by technological innovation and the resistance to change of existing institutions. A nation's (or region's) development path, consequently, is as much influenced by the social and cultural forces which determine institutional resistance as it is by the market forces which determine technological adaptation (Klein, 1977; Hoselitz, 1961). Furthermore, the interaction between the forces generating and resisting change are continuous. Economic change is a process out of which particular development paths evolve in particular countries. The institutional approach therefore involves an identification of factors--economic, social, cultural, psychological, and political--conducive to (or retardive of) increased output and worker production. It also usually involves a presumption that government is the appropriate agent for both defining a nation's (region's) development goals and influencing the existing institutional structure in ways that will help achieve them.[13]

We can now turn to what the orthodox, radical, and institutional approaches have to say about the functioning of labor markets as part of the development process. W. Arthur Lewis' classical version of the orthodox model was applied by Lloyd Reynold (1965) to study the Puerto Rican labor market. As the model predicts, he found a virtually unlimited supply of industrial labor existed as workers shifted from agricultural and other activities in response to the industrial/nonindustrial wage differential. Unlike the model predicts, however, employment did not expand with real wages constant. Instead, real wages rose significantly and employment grew only slowly. The consequence, Reynold argues, of Puerto Rico's minimum wage legislation. Other than the Reynold's study, the orthodox classical model has been used primarily to investigate issues of capital accumulation, not labor market behavior.

The neoclassical version of the orthodox model, with its analytical reliance on the assumption of well functioning markets, has made little contribution to our understanding of labor markets during the development process. Its most widespread application (often implicitly) has been in estimating the opportunity cost of labor as part of project feasibility evaluations. Even here, questions about whether market wages are an accurate measure of the real economic cost of labor limit the neoclassical model's usefulness.

The radical model's focus on the generation and growth of surplus value (capital accumulation) in the development process is reflected in its distinction between productive and nonproductive labor.[14] Productive labor is defined as those types of activities which contribute to the creation of surplus value. The radical model has the merit of directing our attention to the distribution of labor among different occupations and industries (Standing, 1981, pp. 48-50). The policy implications of the radical model for developing countries' labor markets, however, involve state actions to reduce the portion of a nation's total labor supply involved in nonproductive activities. There is little in the model with direct implication for the organizational structure of labor markets, or how different structures may influence the labor market behavior of workers.[15]

The enormous institutional diversity of market structures in the lesser developed nations (regions) of the world, and "the importance to their development of the special institutional configuration conferred on each one of these countries by its history, politics, colonial experience, and ethnic composition" (Dalton, 1977, pg. 24) has made institutional analysis a (if not, the) approach used by most researchers in studying development problems.[16] This has produced general agreement that the creation of an industrial exchange oriented work force requires more than a simple shifting of workers away from an economy's subsistence (traditional, noncapitalist, nonindustrial) sector. It requires what Kerr and Siegel called a "structuring of the labor force" (1955). Part of this structuring applies to the supply side of the labor market and includes the matching of the occupational training, industrial experience, and geographic location of workers with the demand of employers through an institutionalized pattern of recruitment and hiring. The other part applies to the development envolvement of attitudes associated with a stable committed work force.[17] That is, the manner in which the organization of the work place feeds back and--along with family structure, religion, village organization, and other social and cultural forces--influences worker behavior.

Although exceptions abound, economist's studies have tended to cluster around problems involving the supply side perspective of labor market structuring, while anthropological and sociological research has tended to cluster around the demand side perspective of studying factors that influence worker behavior (Hoselitz, 1961; Smelser, 1957). This disciplinary division of effort has worked fairly well so long as the analytical sytem involved one way casuality. Economists could acknowledge a list of social and cultural factors as relevent to the functioning of labor markets, and then procede to their analyses of labor market structures asserted to be the necessary, although admittedly not sufficient, conditions for the creation of an industrial work force. Anthropologists and sociologists could follow a similar pattern: first acknowledging the importance of job availability information, skill training mechanisms, wage setting procedures, and other institutional conditions as important, and then concentrating their analyses on the way cultural, psychological and social institutions influence the labor market behavior of individuals and groups.

Thus, while the institutionalist conceptualization of the development process centers around the interaction (or two-way causality) between institutional rigidity and innovative change (in the Schumpaterian sense), most empirical studies have dealt with one way causality and discussed feedback effects only in an ad hoc manner, if at all.

In large part, the reason for the lack of explicit analyses of feedback effects stems from the methodological underpinings of the orthodox and radical models discussed in the prior section. Both models use a supply-side perspective and consequently assume that workers motivations are given and fixed. Changes in motivation (not just behavior), however, appear to be a critical element in the formation of a disciplined industrial workforce, and one of the important influences on worker behavior appears to be the organization of the workplace. One anthropologist, Manning Nash, goes so far as to assert, "It is my conviction that the incentive structure relevant to participation in and commitment to a roster of modern occupations is built up in the very process of participation and rarely exists anterior to that historical involvement" (Nash, 1974, pg. 207). Yet, it is exactly this interaction between the organization of the workplace and the motivations of workers which both the orthodox and radical models are metholologically incapable of capturing. Institutionalist researchers, often reacting to the formal abstract propositions of orthodox theory, have shied away from developing generalized models. While their underlying paradigm asserts the influence of institutional arrangements on the values and goals (i.e., the motivations) of a population, institutionalist investigations of labor markets in the development process have been largely empirical discriptions of particular countries' (regions') experiences.[18]

The net result of three decades of research into the issues of economic development, consequently, has been (a) two models (the orthodox and radical) which are metholologically unable to deal with the feedback of different types of industrial organization on the goals and values of workers, and (b) a paradigm for dealing with the feedback problem that has generated numerous case studies, but no analytically generalized propositions about how that feedback works. The result has been a body of research documenting the difficulty and long duration of creating a disciplined labor force combined with analytical research proporting to identify who is to blame for the process being so difficult and taking so long.[19] Neither of these results is very satisfying. The first implies that the diversity of the development process is too great to permit the type of generalized propositions normally associated with economic ~~ananysis~~ analysis. The second implies that economic development is (in its most reduced analytical form) more dependent on the intent of some group or class than it is upon the evolution of either markets or institutions.[20]

What is needed is creation of some theoretical device which allows for the incorporation of feedback effects. This is not to say that such a device must fully correspond to conditions of dynamic interaction between institutions, motivation, and behavior found in any particular developing labor market. At this stage of our understanding of the development process, the best we can hope for is a device which allows us to systematically approach economic development in a generalized manner while avoiding ascription of blame each time we encounter a socially, culturally, or economically unacceptable state of affairs.

I propose to use the concept of labor market segmentation, discussed in the prior section, as the appropriate device to further our understanding of the evolution of labor markets during the process of economic development. Segmentation in this case applies to the existence of a subsistence and an exchange sector within the same economy. In common with the dual labor market hypothesis, however, we will allow the institutions of each sector to differentially effect the values and goals of the people involved. The creation of such an analytical device is the task of the next section.

AN ALTERNATIVE MODEL OF LABOR MARKET DEVELOPMENT

Our conceptual investigation begins with a nation (region) which is politically unified and populated by residents who seek at all times to achieve the highest level of psychological and material welfare which they perceive is available to them. The economy of this society is segmented into a subsistence sector and an exchange sector.

The subsistence sector has most of the attributes of a traditional folk economy (Hoselitz, 1966). Economic acts have multi-dimensional meaning--i.e., "They have relevance not merely as acts of production and exchange but also as ~~a~~ acts of ritual, assertion of associative values, etc." (Hoselitz, 1966, pg. 19). The household is the basic unit of production as well as consumption, and what we would call economically productive work is functionally diffuse. The household not only hunts, fishes, or harvests crops, it also builds its own house, makes its own clothing, creates its own art, and provides for its full range of consumption and investment needs. These economically productive acts have multiple dimensions of significance. When a household member harvests game, fish, or crops, he (or she) is not simply engaging in a productive activity. It is an activity which also has social, cultural, and ritualistic importance. It helps reaffirm both the person's status and role in the household and community. Furthermore, the person's status and role is normally defined by who he or she is, not by what he or she is best able to do.

See contradiction

who parents are?

In the subsistence sector consequently the individual's role is secure. It is continuously reaffirmed by the very acts of daily living, and one would expect to find little existenial angst or societal alienation among its members. At the same time, the very diffuseness of labor effort in the subsistence sector limits the potential level of material welfare achievable. The combined resistence of social, cultural, and ritualistic institutions is sufficiently great to limit technological change to activities which are engaged in only by a single individual. Thus, a new fishing hook, spear point, or handicraft genre might be innovated and, if successful, gradually conferred with culturally sanctioned attributes and generally adopted. Technological change requiring a reorganization of labor effort into more specialized activities cannot occur however since it would imply reorganization of the sector's entire institutional structure. These limits to technological change in the subsistence sector (if it is to remain stable), mean that only a relatively low level of material goods produced per capita is achievable. It is a sector which generates high levels of psychological welfare at the cost of relatively low levels of material welfare.

The exchange sector on the other hand is a society in which economic activity is specialized, individualistic, and highly achievement oriented. The cultural values of the sector emphasize atomistic behavior. The distribution of economic roles (and wealth) is primarily determined by a persons ability to achieve ends which are valued by others. Individual status is determined by how well a person can do this, not who the person is. The act of economic production itself is highly specialized. The family still serves as a unit of shared consumption, but involvement in production activity requires leaving the household and working with strangers within an organization to which the individual has no (necessary) political, religious, ethnic, social, or other "non-producing" ties. These ties, in fact, are themselves individually determined and have no necessary pattern. Individuals can combine any mix of institutional affiliations they choose. In each instance, they achieve status solely on their ability to help achieve the collective goals of others affiliated with the same institution. In the exchange sector, all persons are continuously judging and being judged. Individuals may engage in activities for which they comprehend no intrinsic purpose or value but simply as a means of achieving some desired status goal.

In the exchange sector, the individual's role is never secure. It is continuously challenged in virtually all the acts of daily living. Furthermore, achieving a desired status in one role has no necessary transference to any of the other roles in a person's life. It is a sector which requires each individual demonstrate competence over and over again. There is little of the psychological security that comes from ascribed status definition; and what status the individual can achieve is always under challenge. It is an environment in which societal alienation, disorientation and anomie are the constant companions of many people's lives.

At the same time, the atomism of the exchange sector gives it both the motivation and the ability to achieve high levels of material welfare. The drive for individual achievement causes people to search for new and more efficient ways of doing things. Successful innovation is both highly prized and highly rewarded. If these innovations require a fundamental change in some of the exchange sector's institutions, this can be accommodated without destablizing all of its other institutions. Some institutions can change while others don't. So long as (a) all institutions don't change simultaneously and (b) the rate of change is not too fast (i.e., changes occur at the margin and not on average), the exchange sector demonstrates great flexability to even major alterations in its institutional structure. Major reorganizations of the work place, involving increased labor specialization, rising capital-to-labor ratios, and increased worker productivity both can and do occur with regularity. The exchange sector consequently generates high levels of material welfare but at the cost of relatively low levels of psychological welfare.

Before proceeding, it is important to clarify that the above discussion is not meant as a full description of either the subsistence or the exchange sector. Obviously, personal achievement is not the only basis of status in an exchange economy. The inheritance of wealth, the existence of family and social connections, and numerous other factors may contribute to an individuals' status. Similarly, persons in a subsistence economy exchange some goods, reward status to some types of individual achievement, and exhibit some forms of labor specialization. Some elements of subsistence exist in all exchange economies as do some elements of exchange in all subsistence economies. Our analytical model, however, abstracts from these mixed elements and deals with both the subsistence and exchange sectors as if they existed in their pure forms.

The question of how a subsistence and an exchange sector came to exist in the same economy also needs to be addressed. This could occur in any number of ways including the development of an area's resources resulting for shifts in relative work prices, ? technological change which reduces the costs of production in an area, conquest by a foreign (non-area) state resulting from political or religious motives. In Alaska, (as I suspect is true for most areas), the creation of a dual subsistence/exchange economy came from a conbination of forces; and the process is illustrative of how a two sector economy evolves.

Europeans first discovered the existence of Alaska in 1741 (as a result of the voyage of Vitus Bering), and for the next 126 years Russia asserted its sovereignty over Alaska. The impact of the Russians on the subsistence economies of Alaska's indigenous population was minimal. First, there were few of them. Russian colonization between 1799 and 1867 averaged about 550 persons and never exceeded 823. (Robert D. Arnold, et al, 1976, pg. 20). Second, they never established an exchange economy in Alaska, using military force to enslave the local population into doing what they wanted. When in the United States purchased Russia's claim to Alaska in 1867 therefore, the subsistence lifestyles of most Native Alaskans had been only lightly touched by contract with an exchange economy. For the next two decades little economic change came to

Alaska and the non-Native population was only 430 persons as late as 1880. The development of commercial salmon canneries and the discovery of gold brought a surge of population to Alaska and ~~the~~ a significant exchange sector to its economy. The exchange sector was almost all non-Native however. Alaska's indigenous people continued to live dominately in the subsistence sector. This situation continued until after the Second World War. For the next 25 years, Alaska went through re-occurring boom and bust cycles primarily based on cycles of federal civilian and military construction. When construction sites were located in the remote parts of Alaska, some hiring of local people occurred. By and large however, most workers were imported and a majority of Alaska's Native population continued to live in the subsistence sector. At the dawn of Alaska's modern economy (i.e., the economy based on oil revenues) a dual economy still existed in Alaska, with Natives living dominately in the subsistence sector and non-Natives in the exchange sector.

Why did it occur? Orthodox explanations ususally involve some combination of discrimination and human capital theories, while radical explanations usually involve some theory of exploitation (in Alaska, its mostly exploitation of the U.S. economy's peripheral areas by its centre areas). Neither fits the last 25 years of data very well. Large investments in human capital have occurred. Health care programs have led to dramatic falls in Native mortality rates and declines in the incidence of most sicknesses. Secondary school enrollments improved dramatically; and by 1974, Alaska Native youth were attending secondary schools at the same rate that non-Native youth were. The quality of educational services provided to Natives was probably less than that provided non-Natives, but large per capita expenditures were made and they resulted in an indeniable increase in the formal education component of the human capital embodied in young Alaska Natives. At the same time, the Civil Rights Act of 1974 and the Equal Employment Opportunity Act have had significant impacts in Alaska on reducing discrimination based on race. A positive preference for Native hire actually has developed in certain parts of the state's exchange economy. Public and private employers now actively recruit qualified Natives, as well as other minorities. While racial discrimination toward Alaska Natives continues to exist as an employment barrier, there is general agreement that it has significantly lessened during the past 20 years. Yet d~~i~~espite large human capital investments and a ~~lessing~~ lessening of the non-Native population's taste for discrimination (to use Becker's terminology), Natives--particularly Native males--have not increased their participation in the exchange sector in the manner the orthodox model would predict.

Radical exploitation models do little better. The Alaska Native Claims Settlement Act (ANCSA) transferred to Alaska's Native people 962.5 million dollars and confirmed their title to 40 million acres of land. It also created 12 regional and 203 village business corporations, all with ~~Natives~~ exclusively ~~enrolled as~~ Native shareholders, to act as the Native operated and controlled vehicle for deciding how to invest these assets. D~~i~~espite ~~ANSC's~~ ANCSA'S requirement that at least 55 percent of all money and income received be distributed to either individual shareholders or village corporations, the 12 regional corporations reported total combined assets of 826.7 million dollars in 1980. Yet, these ~~(presumably) non-exploitive~~ Native corporations committed to Native hire have not induced labor market behavior among Native workers noticeably different than that experienced by non-Native employers.

maybe they can tell the difference.

The reason neither model works well in Alaska, I would argue, is that both treat the economy as if it had a single sector, and that subsistence was simply another type of productive activity in an economy organized around the institutions of exchange. A dual subsistence/exchange economy model appears to provide a superior explanation.

The dual economy model begins with the exchange and subsistence sectors existing together in the same economy. Both sectors are in equilibrium in the sense that people living in each sector have no motivation to change to the other. The balance between psychological and material welfare yields the same total net welfare in both sectors. People in the exchange would like to increase their psychological welfare but are unwilling to reduce their material welfare to do so. In the subsistence sector, the opposite holds: though people desire more material goods, the psychological costs of shifting into the exchange sector are greater than their perception of the benefits to be derived.

Each sector has its own set of cultural institutions which reinforce its stability. In the exchange sector, early exposure to the norm of competitive achievement in household chores, sports, schools, and the very organization of the household reduces the psychological costs of competition and helps insure the continuity of preferences for the high material--low psychological welfare mix that it provides. The institutions of the subsistence sector work in a similar manner. Early exposure to role and status indentification occurs in every contact an infant experiences with members of the greater family and village and helps insure that most persons in the subsistence sector will continue to prefer the high psychological--low material welfare mix it provides.

The institutional reinforcement provided within each sector is never completely effective. Some persons who grow up in the exchange sector find the psychological costs too high and leave it to homestead "in the bush." Some persons who grow up in the subsistence sector find their preference for material welfare is greater than the psychological costs of obtaining it, and they will cross over and become part of the exchange sector. Such intersectoral movement however is not large. The cultural institutions in each sector are generally successful in forming preference functions satisfied by its own mix of material and psychological welfare.

Not only aren't the sectors competitive, they actually support each other's stability. When members of the exchange sector find the accumulation cumulation of psychological costs becoming too high, they can find relief by going into subsistence type activities (hunting and fishing in a well define, role proscribed, environment). Members of the subsistence sector with a desire for some specific type of material welfare (an oil burning stove, an outboard engine, and increasingly in Alaska, a television set) will take low skill jobs in the exchange sector until their specific income (material welfare) objectives are reached.

Persons making these intersectoral shifts on an intermittant basis are different than those who permanently shift between sectors. Their intersector movements in no way imply a shift in their underlying aggregate preference functions. Their aggregate preference is still for their own sector. The ability to satisfy specific, limited objectives by intermittantly leaving their own sector for short periods of time becomes a safety value, releasing pressures that might otherwise become forces for institutional instability. These intersector visitors carry with them the values and motivations of their own sector, learning by experience to superficially modify their behavior only enough that it doesn't apear obviously inappropriate to their temporary environment. Their underlying values and motivations do not change. An unusually plentiful run of fish or game will not cause an exchange sector inhabitant to prolong his or her wilderness experience any more than an increase in real wages will prolong the duration of wage employment for an inhabitant of the subsistence sector. The two sectors of the economy interact only marginally and their populations are stable with respect to each other in the short run. over fairly
over periods of time.

In the longer run however, the exchange sector inevitably causes this intersectoral equilibrium to be disturbed. The values associated with individual achievement produce increasing rounds of innovation which ~~while~~ the exchange sector's its atomized cultural institutions are unable to effectively resist (although they can effect the rate and form which the innovations take). If there is an ~~In the~~ absence of technical change, the real growth of the exchange sector will be ~~consequently~~ be limited over time by it natural rate of population growth. The rate will be shifted upwards by new rounds of techn~~icol~~ological innovation; but this process is lumpy and until the next round occurs, full employment equilibrium definds the short run limit to real growth in the exchange sector.

At this point, it's import~~nat~~ant to distinguish between an open and a closed economy. In a closed economy, labor cannot be imported. The only way the exchange sector can grow in the short run is by obtaining labor from the subsistence sector, but this cannot be done since the inhabitants of the subsistence sector have preference functions which are unresponsive to exchange market inducements. They will continue to work intermittantly in the exchange sector to meet specific material welfare goals, but will not internalize the values of individual rather than family or community achievement necessary to create the disciplined work required by the increasingly sophisticated production process of the exchange sector. In such a case, no market solution is possible.

In many ways, the closed version of the dual psychological--material welfare model replicates the classical model of W. Arthur Lewis. Only Lewis distinguishes between the motivation of capitalists and workers and assumes both are part of the same exchange economy. The result is a reallocation of all of the economy's resources in response to the inducements offered by changing relative prices. There is only one sector in the economy, although there are multiple classes. In our model, there are differently motivated capitalists and workers in the exchange sector but there are also people in the subsistence sector with integrated production-consumption activities who do not respond to market exchange inducements. This creates an anomoly (a contradicton, in radical terminology). The subsistence sector posseses a stock of scarce resources (its potential supply of disciplined workers). The exchange sector is experiencing a short-term growth bottleneck for lack of the same resource. Yet, no mechanism exists (within any reasonable range) for the voluntary transfer of these resources from one sector to the other. Historically, this anomoly has produced some type of state mandated institutional change which gave the exchange sector access to the human resources embodied in the subsistence sector's population. The specifics of this change have varied from country to country. Common lands have been enclosed, burdensome taxes have been levied, military force has been used. The institutional cohesiveness of the subsistence sector makes it especially vulnerable to these types of state intervention. The destruction of any fundamental institution irrevokably leads to the demise of the entire sector.

The role of the state as agent of the capitalist class is asserted by definition in the radical model. In the material-psychological welfare model however it is an analytically derivable proposition that the state will act as the agent for the exchange sector. One of the key functions of any formal government is the establishement of rules by which wealth can be created, owned, and transferred by individuals. The exchange sector's atomistic competition combined with its increasingly specialized, interdependent production units, requires the codification of widely accepted rules of the game which match the sophistication of its production processes. The subsistence sector (with its ascription of individual roles and multi-dimensional economic activities) has little need for formal government. Questions of wealth in the subsistence sector also have social, cultural, and ritualistic significance and [illegible] ~~They are~~ solved by reference to tradition not by an impartial adjudication of competing claims. The reasons de'etra of formal government's growth are the needs of the exchange sector, and over time it will reflect those needs in its behavior. The type of behavior will vary from country to country and from one time period to another, but the ability of a closed economy to generate rapid growth of real per capita GNP

~~growth~~ in the absence of ~~a~~ new ~~wave of innovation~~ technology is the unification of the subsistence sector's population into the exchange labor market. ~~Otherwise, the exchange sector's rate of real economic growth will be fixed by its natural rate of population growth.~~

In an open economy such as Alaska were labor can be imported, an alternative development path is possible. If the wage necessary to attract an in-migration of labor equals or exceeds labor's marginal value product, a market solution can occur. Workers and their families will flow into the exchange sector of the economy ~~as it grows.~~ flow inside the region, Over time, the subsistence sector will become a smaller and smaller part of the total economy and will eventually be submerged, ~~by its aggregate performance~~. If members of the subsistence sector assert collective claim to some physical or biological resource which is critically scarce (now that the labor supply problem has been solved), a market solution is again precluded and some type of government intervention such as those found in the closed economy case would be expected. not clear

What now can be concluded from the use of the dual psychological-material welfare (DPMW) model? First, that the unification of a~~n~~ closed economy into a single exchange sector is a necessary condition for increasing its real rate of GNP growth above that determined by the exchange sector's natural rate of population increase. Second, in a closed economy there is no market mechanism capable of producing this unifica~~iton~~tion because the institutions of the subsistence sector act to form perference functions insensitive to the exchange sector's resource allocating price mechanisms. Third, the institution of formal government grows in response to the exchange sector's needs and invariably represents those needs in its actions. Fourth, government has been the essential precip~~a~~itator of institutional reorganizations that have historically produced the absorbtion of the subsistence sector into the exchange sector. Fifth, an open economy has a market ~~solution~~ alternative to unifying its two sectors. However sixth, if inhabitants of the subsistence sector assert collective claims over resources critical for the growth of the exchange sector, government interventions will be required, as they were in the case of the closed economy. you mean if they were sold at a market price?

More importantly, the DPMW model focus our analytical attention on a critical issue which surrounds much of today's development discussions about closed economies. The institutions of formal government initially grew in response to needs of the exchange sector; but since the end of the Second World War, many govenments have been created with primarily political, not economic, constituencies. They are aware of the human costs incurred by inhabitants of subsistence sectors as a result of most interventions used historically to unify western economi~~c~~es. They do not wish to inflict similiar hardships on their constituencies but they want the material benefits available from the unification of their national economies into a single, exchange sector. It seems to me this is the core issue which surrounds today's search for non-punitive distributional methods if unifying the economies of LDC's. As they gave benefits are not necessary by the gov and the gov [illegible] the recipients to pay for them.

An alternative implication of the DPMW model is that unification can be achieved through institutional modifications in the way the work place is organized in the exchange sector.

How this would work, and its application to the issue of increasing employment opportunities for Alaska Natives, is the subject of the next section.

APPLYING THE DPMW MODEL TO ALASKA

The history of Alaska illustrates how a single sector subsistence economy first becomes a dual economy and then begins changing into a single sector exchange economy.[21] Prior to European contact, Alaska was populated by a variety of culturally distinct subsistence living populations: the Eskimo in the North (Inupik) and West (Yupik), Athapascans in the Interior, Aleuts along the Aleutian Chain, and Tlingit-Haida's in the Southeast. These populations represented distinct ethnic and language groups, each having unique institutional systems. All, however, were subsistence systems whose economic characteristics were summarized by George Rogers as follows:

> All represent self-sufficient subsistence economies based upon the readily harvested natural resources of marine life, land, wildlife and, in varying degrees, edible vegetable matter, fibers, timber (or driftwood), and a very few minerals. These several forms of human organization and institutions evolved from extended and ruthless trial-and-error experimentation, and probably were the most natural ecological arrangement for each region and the highest social and economic order possible given the limits of aboriginal knowledge and technology as applied to the physical environment and the natural resource base . . . All of Native Alaska was undoubtedly characterized by the absence of any belief that the external world could be understood or treated in terms other than myths or could be manipulated and changed in any respect to the advantage of man, a characteristic typical of primitive societies. The physical environment and the natural yield of renewable resources were "given." In the language of the economist, development took place "within limited production functions" reflecting the lack of scientific knowledge possessed by modern western civilization. Within the ceiling so imposed upon economic productivity, population levels were the products of unmanaged fluctuations in the natural harvest or the chance impact of plague or limited warfare. (Rogers, 1962, pg. 66).

Ethnohistorical research (Hippler and Wood, 1974; Jones and Wood, 1976; Hippler and Wood, 1977) agrees that these populations also bestowed defuse, multi-dimensional value to all (including economic) activities, had status systems based on ascribed roles, and exhibited most of the characteristics used to describe the high psychological-low material welfare subsistence sector in the DPMW model. As expected, nonviolent disputes in these subsistence systems were settled by reference to tradition or ascribed authority and enforced by weight of household, family, and village customs. There was little need for the institutions of formal governance, and they never developed.

A single sector subsistence economy was Alaska's dominant form of living until the 1880s. Russia's occupancy of Alaska covered the years 1740-1867, and was notable for the brutality with which local people (particularly the Aleuts) were enslaved. The Russians, however, had only minor impact on Alaska's economy. They were few in number, they lived along Alaska's coastline and never went inland, and they obtained Alaska's resources by force not by exchange. The purchase of Russia's claim to Alaska by the United States in 1867 resulted in few immediate changes, and in 1880 there were an estimated 430 non-Natives living in all of Alaska, compared to an estimated Native population of 32,996.[22]

The development of commercial salmon canneries during the 1880s marked the beginning of Alaska as a dual economy. The commercial harvesting and canning of salmon; the discovery of major gold deposits in Juneau, the Yukon Territory, and Nome; and the mining of copper in Prince Willian Sound were the major forces leading to creation of the exchange sector. Each of these forces resulted from a different initial cause. The commercial harvesting and salmon came from improvements in transportation technology. The mining of gold from the discovery of a new and valuable resource. The mining of copper from a shift in relative world prices. Together, these forces generated new opportunities for jobs and wealth, and with Alaska's open economy (now part of the United States), workers and their families migrated north. By 1900, there were about 29,500 Natives and 34,000 non-Natives living in Alaska. Although these populations fluctuated with changes in birth, death, and migration rates, they remained remarkably stable for the next forty years averaging 28,800 (standard deviation, 2,800) for Natives and 34,200 (standard deviation, 5,400) for non-Natives.

During this period, the two sectors in Alaska's dual economy were generally in balance. The exchange sector was limited to the coastal fishing communities of southeast and southwest Alaska, the mining communities in Prince William Sound, and the occasional boom towns created by gold seekers. It was populated almost exclusively by non-Native migrants from the lower United States who brought with them the labor market discipline and cultural values necessary for functioning within the institutions of an exchange economy. The rest of Alaska's vast area was populated by Natives who continued to live in subsistence societies. They intermittently entered the exchange sector to work or trade for specific material goods, but there is no indication of any disposition on their part to prefer the low psychological-high material welfare mix available in the exchange sector to the high psychological-low welfare mix available in the subsistence sector. Alaska's exchange sector employers, unable to employ the potential Native work force embodied in the subsistence sector's population, had to incur the costs of annually importing a peak seasonal work force. For the population of the subsistence sector, the higher wages used to attract outsiders meant ~~their ability to~~ they could achieve specific goals that much faster, and may have reduced their need for extended contact with the exchange sector.[23]

The essential balance between the two sectors of Alaska ended with the Second World War. In the peak year of 1943, there were 152,000 military personnel in Alaska, more than double Alaska's total population only three years earlier. Population declined after the war ended, but by 1947 the beginning of a decade of federal military construction in Alaska had begun. Combined with the growth of federal civilian and military workers, the post-war period saw Alaska's exchange sector become highly dependent on federal military and civilian programs. Government jobs accounted for 13.5 percent of Alaska's total (including military) work force in 1939. It accounted for 59.2 percent in 1968. With the growth of government employment came a growth of population, and in 1958 non-Natives outnumbered Natives by better than four to one as Alaska's total population grew to over 200,000 persons.

The rapid growth and change of Alaska's exchange sector dramatically altered its institutional structure. Exchange economy communities became larger, and began supporting the growth of an expanded trade and service sector. The civilian occupational structure of the exchange economy shifted away from blue collar labor employed in resource extraction industries toward white collar labor employed in activities such as public adminstration, professional and business services, finance, and trade. Real per capita income in the exchange sector rose rapidly compared to the relatively stable subsistence sector. A report to the Federal Field Committee for Development Planning in Alaska reflected these new values by presuming a universal desire to participate in a high material-low psychological welfare exchange economy. It reported in 1968 that 20 percent of Alaska's population,

> live in widely scattered settlements . . . are unemployed or only seasonally employed . . . live in poverty . . . in small, dilapidated or substandard houses under unsanitary conditions . . . are more often victims of disease, and their life span is much shorter than that of other Alaskans . . . They are not only undereducated for the modern world, but they are living where adequate education or training cannot be obtained, where there are few jobs, where little or no growth is taking place, and where little growth is forecast. (Reproduced in Rogers, ______________, pg. 93.)

Reflecting their exchange sector values, federal and state governments began attacking these perceived needs one after the other. Health needs were attacked first, and between 1950 and 1960 the Native death dropped from 16.9 to 9.4 deaths per 1,000 population. Live birth rates increased dramatically, and by 1980 the Native population of Alaska (64,000) exceeded the population estimated to have lived here during the 1740-80 period. Next came a concern with education and training. Major government programs were launched, and between 1960 and 1970 the proportion of Alaska Natives 25 years and older with a high school degree rose from 16 percent to 47 percent. In a similar manner, rural housing programs significantly up-graded the housing stock throughout Alaska. Jobs programs helped increase the proportion of adult Natives working in the exchange labor market from about 30 percent in 1970 to about 50 percent in 1980. The detailed analysis of the current status of Native Alaskans, in the prior chapter, gives a sharp picture of the speed with which the exchange sector has been absorbing the population that once constituted Alaska's subsistence sector.

When viewed from the perspective of poverty within the exchange sector, the disparity between levels of income, education, and employment among Alaska's Native and non-Native inhabitants is still large. From an economic development perspective however Alaska's exchange economy expanded rapidly since the end of World War II, and has absorbed the population of the once stable subsistence level with remarkable speed. The application of the open economy DPMW model to Alaska leads to the conclusion that this process will continue. Within the foreseeable future, Alaska's economy will be unified into a single exchange sector. Disparities of income and wealth will remain, of course, but they will be the issues of poverty, not economic development and cultural change.

The above scenario is derived from the open economy version of the DPMW model. The key assumptions in the model are (1) the existence of two sectors in the economy; (2) the separation of the two sectors into the low psychological-high material welfare culture of the exchange sector and the high psychological-low material welfare culture of the subsistence sector; (3) the exchange sector's requirement for a disciplined work force requiring not just the population's willingness to periodically hold jobs, but the internalization of an eth~~n~~ic of individual achievement based on competition in the labor market; (4) the subsistence sector's ascription of social, cultural, and ritualistic significance to all (including economic) acts precluding the buying and selling of labor services for individual benefit; (5) the inability of the exchange sector's price mechanisms to attract a disciplined supply of labor from the subsistence population resulting (in the open economy case) in the in-migration of persons with the cultural values of exchange; (6) as the exchange sector grows, relative to the subsistence sector, the disparity in material welfare between the two sectors becomes defined by the government of the exchange sector as a problem of poverty, and programs designed to eliminate that poverty are created; and (7) that the concept of poverty in the exchange sector (rooted in the cultural values of individual competition and achievement) and programs designed to address this definition are incompatible with the cultural values of subsistence.

The DPMW model consequently leads to the conclusion that the critical problem in Alaska today is not Native jobs, but Native culture. For Natives who are willing to enter the exchange culture and become members of a disciplined work force, Alaska's growing exchange economy offers large opportunities. For Natives who prefer the culture of the subsistence sector however, the very programs designed to help eliminate their poverty end up by undermining the institutional fabric necessary to keep the subsistence sector viable. The nexus of the problem lies in the concept of a disciplined work force. So long as the institutional organization of production in the exchange sector embodies that sector's cultural values, there is no way to attract a reliable supply of labor from the subsistence sector's population without leading to that sector's eventual cultural absorption and disappearance.

good

If we define the problem as one of generating a reliable supply of labor from the subsistence population however (instead of creating a disciplined work force) a solution suggests itself. It is a reorganization of the hiring practices and work rules which define the social organization of work such that they become supportive of the cultural values of subsistence, while at the same time providing excahange sector employers with the reliable labor supply they need for profitable production. The basis for designing and implementing such culturally sensitive work rules is the explicit use of anthropological research into the cultural importance of the work place in the development process. This is the subject of the next chapter.

ENDNOTES

1. Profession controversy existed about such issues as the full employment vs. inflation trade-off (Rees, 1970); the need to selectively target aggregate demand policies (Solow, 1976); or the impact of aggregate demand management on the U.S. balance of payments (Okum, 1976). These were debates about the unintended consequences of aggregate demand management. The participants in the debates never questioned that aggregate demand management could achieve full employment for all workers if we were willing to abide with such side-effects as inflation or balance of payments deficits.

   On a more methodologically fundamental level, controversy between the neoclassical and Keynesian economists over the need for and efficiency of aggregate demand management policies existed. This debate was over the market economy's adjustment process (and duration) when some exogenous shock has disturbed it from a full employment equilibrium. Neither side in this debate gave evidence of any doubt that at full employment equilibrium, all workers would not have equal opportunity to benefit from the expansion of job opportunities.

2. While acknowledging the problems (distortions) imposed by such factors as minimum wage legislation and strong unions, a well used intermediate text on labor economics published in 1959 could still (approvingly) quote Hick's (1932) statement that "the theory of the determination of wages in a free economy is simply a special case of the general theory of value" (Carter, 1959, pg. 4).

3. Not all types of workers, however, would face the same employment/wage conditions. This would depend on the relative income elasticity of demand of the products and services they were producing.

4. The orthodox response actually took several different approaches. These included: viewing labor as a quasi-fixed factor of production (Oi, 1962); incorporating the costs of job search (Rees, 1979, Chpt. 6; Phelps, 1970); and studying the influence of wage rigidities (Reder, 1964; Mincer, 1976).

5. The desire of capitalists to accumulate is usually argued historically by radical economists. It can also be argued using the same methodological device used to defend the assumption of profit maximizing businessmen. Whatever the actual motivation of capitalists, the process of institutional change in an economy can best be scientifically explained by assuming that they acted as if they were motivated to accumulate. This methodological device is true equally for all the motivational attributes assigned to the players in both the orthodox and radical models. The verification of the attribute assignments for the orthodox and radical models comes from their ability to explain (i.e., both to predict and allow us to influence [Stewart, 1979]) output shifts in response to changing relative prices and the process of institutional change, respectively.

6. Obviously, all actual people are both capitalists and workers at the same time. The radical model, however, dichotomizes the factor market into two independent sets of players. That is, it is assumed that a person's decisions made when performing as a capitalist are totally independent of his or her decisions when performing as a worker. This is the same device used in the orthodox model to separate the roles of producers and consumers when all persons actually are both. Methodologically, Becker's expansion of the human capital model into a generalized theory of decision making is an attempt to rid the orthodox model of this artificial device.

7. It also is why the dual labor market hypothesis can be demonstrated to be compatible with both the orthodox and the radical models. They are competing supply side models of casuality, while the dual labor market hypothesis is a model of demand side casuality. The findings of much dual labor market research carry with them implications that are much more congenial to the political stance of radical economists than they are to those of most (in my opinion) orthodox economists. As a hypothesis about economic phenomena, however, it fits both models equally well.

8. Theories of segmented, stratified, or dual labor markets constitute a rich and varied literature (Cain, 1976), of which I am referring to the work of Piore (1969), Doeringer and Piore (1971), Harrison (1972), and Bluestone (1970) as the dual labor market hypothesis.

9. Reflecting both the newer concern with the distributional aspects of growth and the practical policy orientation that has characterized the development field since its inception, Michael Todaro defines development economics in the most recent edition of his Economic Development in the Third World as "concerned with the eocnomic and political processes necessary for affecting rapid structural and institutional transformations of entire societies in a manner that will most efficiently bring the fruits of economic progress to the broadest segments of their populations" (author's emphasis)(Todaro, 1981).

10. Lewis' "capitalists" are not required to be profit motivated free enterprise capitalists. They can also be what he called "a class of state capitalists" (Lewis, 1954, pg. 160). What distinquishes capitalists is their drive to maximize savings and investment (accumulation), not their profit motivation. Equally, workers can be seen as shifting from an agricultural sector where the rentier class (the "landlords, traders,

moneylenders, priests, soldiers, [and] princes" as Lewis called them) use the difference between workers' wage rates and marginal products for their own consumption. The model does not require a subsistence sector.

11. Another attempt to apply the neoclassical model to the history of western economic development is that of Lance Davis and Douglas North who argue that institutional change can be caused by exogenous shocks which require an institutional reorganization if potential profits are to be maximized (Davis and North, 1971). Their model, however, is really a sort of methodological slight of hand. By assigning many of the same attributes to institutions that are normally assigned to categories of goods, Davis and North show that institutions will vary in the same way that goods do when relative prices change.

12. Reviewing the emphirical finding about economic development among the LDC's, the World Bank's 1978 World Development Report stated, "The past quarter century has seen great progress in developing countries. In virtually all of them, income has risen faster than population, with a consequent rise in income per capita" (World Bank, 1978).

    Analytically, it can be demonstrated that an increase in trade (including trade of an exploitive imperialist nature) will cause an alteration in the combinations in which factors are employed such that total output in both countries is increased. Consequently, the additional surplus value flowing to the advanced capitalist state does not necessarily imply a negative (or even zero) change in surplus value in the traditional state.

13. All institutional investigators of the development problem agree that high correlations exist between the pace of economic development and (a) changes in political, social, and economic institutions; (b) patterns of individual and collective human behavior; and (c) the rate of technological change; but there is

little concensus in assigning causality. Some see the development problem as part of the more general issue of modernization, i.e., how a society evolves institutions which reward activity conducive to increased levels of output and productivity (Hoselitz and Moore, 1961). Others see the critical problem as the psychological motivations which determine individual and collective human behavior (McClelland, 1961). Still others see the critical issue as the rate of technological change and accumulation (Schumpeter, 1948; Kuznets, 1968).

14. In the orthodox model, all activities which are legally permissable and which result in the production of goods and services for exchange are defined as value producing. Orthodox economists often point to the apparent arbitrariness (and, some would argue, normative judgement) involved in distinguishing productive from nonproductive labor, but the arbitrariness is no greater than that required to distinguish legal from illegal labor.

Both orthodox and radical models contain normative assertions to the degree that users of the models judge a particular set of legal institutions or industrial activities preferable to all others. Among orthodox economists, this is usually done implicity in the form of complaints that state actions redefining the rights of property and contract (which the model neutrally takes as a set of given conditions) are "interfering" with the market. Among radical economists, this is done explicitly, since the dynamic properties of the model identify a particular set of activities (those generating surplus value through productive labor) with accumulation and economic development.

15. Most radical economists approach development on a highly aggregative level. Their approach emphasizes the relationship between national (regional) economies or between entire classes

within any single nation (region). This emphasis on aggregate economic phenomena requires collective (i.e., political) behavior to accomplish the type of policy interventions derivable from the radical model. An exception to this generalization has been the interest in micropolitical solutions such as the creation of worker owned enterprises expressed by some students of the development process (Dacks, 1983).

16. The widespread acknowledgement of the importance of institutional conditions for the development process led Phillip Klein to the assertion that "in development economics . . . the mainstream is institutionalist," not orthodox (i.e., neoclassical, classical, or Keynesian) in approach (Klein, 1977).

17. "We can say that a 'committed' industrial labor force has developed when workers no longer look on their industrial employment as temporary, when they understand and accept the requirement of working as part of a group in a factory or other industrial enterprise, and when they find in the industrial environment a more adequate fulfillment of personal satisfactions than they enjoyed in the village or rural society" (Myers, 1958).

18. For example, the majority of the twenty papers in Employment in Developing Nations (Edgar O. Edwards, ed.) are these types of studies. Most of the rest (usually by non-economists) describe with one way causality how the process of modernization effected the creation of industrial labor markets in particular countries.

19. Orthodox analysts usually conclude the villain is some type of restriction placed by the state on the free workings of the market. Radical analysts usually conclude the villain is some type of economic dependency forced on the lesser developed countries (regions) by the political power of the more developed ones.

20. In fairness to radical investigators, they do distinguish between objective and subjective class interests. It is only when the capitalist class is subjectively aware of its role that behavior and intent coincide. However, this distinction is seldom found in the writings of radical students of economic development.

21. This section is based on the research of Rogers (1960, 1962, 1969, and 1970); Kresge, Morehouse, and Rogers (1977); Chance (1970); and Fisher (1970). References to research dealing with the ethnohistory of Alaska are given in Note 1, Kresge, Morehouse, and Rogers (1970, pg. 214). This section is not meant to be a complete (or even very extensive) history of Alaska or its people. Its purpose is to show how the development process described by the DPMW model is not contradicted by major events in Alaska's history.

22. American whalers entered the Bering Sea fishery in the late 1840s and early 1850s, and had contact with Alaska's Eskimo population living in coastal villages. As in the case of the Russians, these contacts produced severe adverse human impacts (in the case of the whalers, the spread of European diseases for which the Eskimos had never developed a natural immunization system was a major consequence), but were of minor importance for Alaska's internal economy.

23. This type of behavior has been represented in the orthodox model as a backward bending labor supply curve. This would be correct if the behavior were observed within the exchange sector's institutional and cultural environment. For the development process, however, this representation ignores the central finding of anthropological research. There is no supply curve of labor services available for exchange from a population whose activities take on the multi-dimensional values of the subsistence sector.