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RELIGION, REGIONAL SELF-SUFFICIENCY, AND ECONOMIC DEVELOPMENT IN UTAH: 1847-1896

by

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ECONOMIC DEVELOPMENT IN UTAH: 1847-1896

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When Mormon settlers arrived in the Great Basin in 1847, the region was Mexican territory notable mainly for its isolation—1,000 miles to the nearest markets—and its inhospitable environment. Under the direction of Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, the Mormons developed a regional economic system that coined and printed its own money, engaged in "foreign trade" with the "States," dealt with balance-of-payments problems, assimilated large numbers of immigrants, and began the process of economic development. Group economic self-sufficiency was stressed, and uncontrolled market capitalism was rejected in favor of cooperative and communitarian economic institutions and centralized theocratic direction and control. The economic isolation of Utah ended with the completion of the transcontinental railroad in 1869. Between 1869 and statehood (1896), pressures toward assimilation clashed repeatedly with Mormon economic policies of cooperation, planning, and group self-sufficiency. It is the thesis of this study that the resistance of Mormon leaders to assimilation led to the development of an unusual dual-parallel economy in which the "traditional" Mormon sector more closely resembled the overall U.S. economy than did the "modern" non-Mormon mining and trading sector. It is argued that the policies of the Mormon church, though designed to prevent or retard economic assimilation, may have speeded the transition of Utah’s economy to modern capitalist development. These policies provided an orderly transition from a subsistence economy based on irrigated agriculture to a diversified, modern economy experiencing rapid economic growth. This transition allowed Utah to avoid the long period of unstable, narrow-based economic colonialism experienced by other Western states in the nineteenth century.
RELIGION, REGIONAL SELF-SUFFICIENCY AND ECONOMIC DEVELOPMENT IN UTAH: 1847-1896

Saints will come, sinners too;
We'll have all we can do,
For the great Union Railroad
Will bring the Devil through.

Mormon folk song, "The Iron Horse"

[Mormonism] must, indeed, be a ____ poor religion, if it cannot stand one railroad.
Brigham Young, circa 1868

Introduction

When Mormon settlers arrived in the Great Basin in the summer of 1847, the region was still Mexican territory notable mainly for its isolation—1,000 miles to the nearest markets—and for its inhospitable environment. The economic isolation of Utah ended with the completion of the transcontinental railroad in 1869. During the interim, the Mormons developed a regional economic system which coined and printed its own medium of exchange, engaged in "foreign trade" with the "States," dealt with balance-of-payments problems, assimilated large numbers of immigrants, and began the process of economic development. The affairs of this regional commonwealth were directed by Brigham Young, not from his position as Governor of Utah Territory, but by virtue of his position as President of The Church of Jesus Christ of Latter-day Saints. Group economic self-sufficiency was stressed, and uncontrolled market capitalism was rejected in favor of cooperative and communitarian economic institutions and centralized theocratic direction and control.

Overt theocratic control over Utah's economy was eroded by the antipolygamy campaign of the 1880s, and the achievement of statehood in 1896 was accompanied by a gradual accommodation and absorption of the regional economy into that of the greater United States. During the period between the railroad's completion and statehood, economic pressures toward assimilation unleashed
by the railroad clashed repeatedly with Mormon economic policies of cooperation, planning, and group self-sufficiency.

It is the thesis of this study that the resistance of Brigham Young and other Mormon leaders to assimilation resulted in the development of an unusual dual-parallel economy in which the "traditional" Mormon sector more closely resembled, in terms of occupational structure, the overall U.S. economy than did the "modern" non-Mormon mining and trading sector. It is argued that the policies of the Mormon church during the last half of the nineteenth century, though designed to prevent or retard economic assimilation, may have speeded the transition of Utah's economy to modern capitalist development. These policies provided an orderly transition from a subsistence economy based on irrigated agriculture to a diversified, modern economy experiencing rapid economic growth. This transition, it is suggested, allowed the Mormon economy to avoid the long period of unstable, narrow-based economic colonialism experienced by other western states in the nineteenth century. Although Utah did undergo a similar period following statehood, that period was likely shorter, and the degree of economic dependence less than would have been the case had Utah not experienced rapid broadening and growth in its economic base during the pre-statehood period.¹

1. Mormon Economic Policy Before 1869

The transcontinental railroad entered a Utah that was still a frontier, but one which differed in many aspects from other American frontier regions. Among the unusual characteristics of pioneer Utah was the intertwining of religious tenets and economic policies evident in the doctrines of the Mormon Church and in the lives of its adherents. This pervasive connection between theology and economic activity is expressed in Mormon scripture by the declaration, "... verily I say
unto you, that all things unto me are spiritual, and not at any time have I given unto you a law which was temporal.” Brigham Young, in explaining this principle, said that “in the mind of God there is no such thing as dividing spiritual from temporal, or temporal from spiritual; for they are one in the Lord.”

The Law of Consecration and Stewardship

Mormon emphasis on economic cooperation, planning, control, and self-sufficiency can be traced almost to the beginnings of the church. The Church of Jesus Christ of Latter-day Saints (the official name of the “Mormon Church”) was organized in 1830. Less than one year later, the church’s founder, Joseph Smith, announced the “Law of Consecration and Stewardship,” a blueprint for an ideal Christian community. Designed to eliminate poverty, to socialize surplus income, and to achieve relative economic equality, the communitarian system operated with mixed success in 1831-1833 in Ohio and Missouri, and in modified form in Missouri in 1838. Legal difficulties, lack of support from the church membership, and mob violence combined to reduce the effectiveness of the system.

During the 1850s, Brigham Young attempted to reintroduce the Law of Consecration and Stewardship among the Mormon population of the Great Basin. The failure of this attempt can be attributed to several factors, including problems with the legality of land titles in Utah, unenthusiastic public response, and the threat of a federal army marching on the territory. In spite of the limited success of the Law of Consecration and Stewardship, the principles of cooperation and equity inherent in the system remained as important components of Mormon economic policy throughout the pre-statehood period.
Cooperation

In addition to the Law of Consecration and Stewardship, other Mormon cooperative activities during the years before 1869 included cooperation in migration, cooperation in settlement, cooperation in irrigation, income and wealth redistribution, and cooperative mercantile and manufacturing associations.

Cooperation in migration was evident in the Mormon exodus from Missouri in 1838 and from Illinois in 1846, when the pooling of material resources undoubtedly helped reduce suffering and loss of life. The Perpetual Emigrating Fund Company, incorporated in 1850 to assist Mormons in migrating to Utah, relied heavily on the voluntary contributions of church members.6

When the Mormons arrived in Salt Lake Valley in 1847, the establishment of settlements was expedited through cooperative efforts in fencing, cultivation, and provision of shelter. The same pattern was followed in subsequent years as settlements spread out from Salt Lake Valley.7

The first Anglo-Saxons to rely on irrigated agriculture, Mormon pioneers soon found that cooperation in the use of water and in the construction of canals and ditches was essential for survival in the Great Basin. The practice of cooperative irrigation projects and the principal of beneficial use in the allocation of water which developed from early Mormon experience set the pattern for agricultural settlements which followed.8

The redistribution of material means from the wealthy to the poor, an important principle of the Law of Consecration and Stewardship, made it possible for many poor Mormons to migrate to Utah. Provision had also to be made for the care of the less fortunate immigrants upon their arrival in the Great Basin. Various programs were devised to assist the poor, including voluntary exchanges and donations, the provision of aid through the tithing office, and the use of the church organization to secure remunerative employment for new immigrants on private or public projects.9
During the 1860s, cooperation found a new manifestation in the establishment of cooperative mercantile and manufacturing associations in various cities and towns in the territory. Zion's Cooperative Mercantile Institution (Z.C.M.I.), formed late in 1868, quickly became the territory's most important wholesale store, spurring the formation of a large number of associated cooperative retail stores. The number of Mormon cooperative mercantile and manufacturing enterprises eventually exceeded 160.¹⁰

Economic Stabilization

Economic stabilization was an important part of Mormon economic policy during the nineteenth century. In the pre-railroad period, stabilization policy included the provision of a medium of exchange, public (church) employment through public works projects to help absorb the large numbers of poor Mormon converts arriving in the Great Basin from the "States" and from northern and western Europe, and a price stabilization program designed to moderate fluctuations in prices and supplies of staple commodities.

Provision of a medium exchange. Cash was scarce in the Great Basin from the very beginning. The small amount of convertible money which found its way into the territory with Oregon-bound settlers or California-bound miners was soon sent out again as payment for imported goods and equipment. The occupation of Utah by federal troops between 1857 and 1861, and by Union troops from 1862 to 1866 alleviated somewhat the money shortage, but only for a time. During the 1849-1851 period, the Mormon Church Mint coined about $75,000 in various denominations from California gold, and in 1858 the church's Deseret Currency Association printed about $80,000 in notes, backed by church cattle and horse herds. These coins and notes circulated for not much more than a year from the time they were produced.¹¹

Because of the serious cash shortage, the majority of transactions in the Mormon economy
were facilitated through the use of "scrip," wheat, or book credit. The main sources of scrip, or due bills, were the church's tithing offices and the cooperative mercantile institutions. Scrip came into circulation as it was used by the issuing institution as payment to employees or to meet other obligations. Made out "to the bearer," the due bills were redeemable in commodities carried by the issuing institution in its store. Scrip enjoyed widespread circulation through the 1870s. Wheat was a circulating medium in the Great Basin throughout most of the period of this study. The third method of financing transactions in the Mormon economy was the use of book credit. The tithing offices, the Church Department of Public Works, the Office of the Trustee-in-Trust of the church, Brigham Young (as President of the Church and as a private businessman), and various Mormon cooperatives and other enterprises kept detailed account books in which transactions were credited and debited. The importance of this system of credit in helping to promote economic activity in the cash-scarce economy of Utah is evident in the volume of transactions recorded in the account books. In 1866, as an example, Brigham Young's ledgers record over $1,198,000 in debits and $711,000 in credits to more than 400 individual accounts. The debit total represents fourteen percent of total personal income in Utah for that year.

Employment stabilization. The Church Department of Public Works was organized in 1850 to oversee the erection of public and church buildings. In addition, the department constructed private residences and irrigation systems, and operated a number of different enterprises to facilitate its work. Public Works operated until 1887, employing at its peak as many as two thousand workmen and expending up to a quarter million dollars a year in cash, labor, and commodities. It was an important tool of stabilization, as it provided employment for many poor Mormon converts who arrived at the rate of nearly 3,000 per year during the department's period of operation. Public Works was the "employer of last resort" and was used by Brigham Young to employ jobless
men in “make work” projects when more substantial projects were not available. 19

Price stabilization. The control of prices was an integral part of Brigham Young’s program of economic stabilization. In the view of Young and other Mormon leaders, the potential advantages of economic regulation through competitive pricing which might be obtained in well-established markets were precluded by conditions in the Great Basin. The seasonal and cyclical fluctuation in the value of money and its variation geographically, the limited ability to transport resources and goods or to transmit market information from one locale to another, the uncertainty of adequate harvests, the limited market area, and the concern with possible market manipulation by “gentile” (non-Mormon) interests all likely contributed to Mormon antipathy toward laissez faire market pricing. 20

A wide variety of direct and indirect price control measures were used by Mormon leaders in the last half of the nineteenth century. The first known instance of direct price control in Utah occurred shortly after the arrival of the Mormons in 1847, when grist mill rates and prices for labor and necessities were fixed. 21 In the 1860s an agricultural price support program was instituted to prevent destabilizing speculation and the outflow of grain from the territory. 22 The Utah Produce Company, an export monopoly, was also organized during the 1860s. 23

Uniform tithing prices, the most pervasive and successful form of price control in early Utah, were instituted in the 1850s. The practice of paying one-tenth of the yearly increase to the church, instituted among Mormons in the Midwest in the 1830s and 1840s, continued in the Great Basin. The acute shortage of money in the region meant that nearly all tithing was paid “in kind.” The collection and disbursement of tithes in kind necessitated the establishment of tithing offices, storehouses, and stockyards in each Mormon community. District tithing offices and storehouses were also constructed, and the entire system was managed through the “General Tithing Office”
and "Bishop's General Storehouse" which were set up in Salt Lake City in 1850. The administration of tithing in kind also required the establishment of a valuation system for the wide variety of goods and services received. Lists of tithing prices were constructed by the Presiding Bishop's office and were distributed to local tithing offices several times each year. These lists established uniform rates for the valuation of tithing in kind throughout the territory. Since the large majority of the population participated in tithe-paying, and since in most communities the tithing office was also the general store, bank, and commodity exchange, tithing prices became "pseudo-market" prices for private transactions. Before the completion of the transcontinental railroad, it is likely that local market prices followed tithing prices quite closely. By carefully controlling relative prices for tithing-in-kind, the Presiding Bishop could ensure the necessary flow of needed foodstuffs into the storehouse, and could prevent the price fluctuations which might lead to commodity speculation and disruption of markets in the absence of controls. A study utilizing tithing prices and average wholesale prices for the same commodities in the Midwest and East demonstrates the remarkable seasonal and year-to-year stability of tithing prices in Utah, particularly during the pre-railroad period.

Mining Policy

During the California gold rush of 1849, and consistently thereafter, Mormon leaders strongly discouraged individuals from participating in the search for precious metals. The reasons for this policy were threefold. First, the process of economic, social, and religious development in the Great Basin required manpower and planning. In a practical sense, the cost of uncontrolled Mormon migration to the gold fields— in terms of lost production and disrupted planning— would have been extreme. Mormon mining policy was also conditioned by the assumption that the average person would not find gold mining remunerative. Miners, said Brigham Young, "have spent
twenty dollars for every one they have obtained from the mines." A third basis for Mormon antipathy to gold and silver mining was the premise that mining attracted undesirable people with low standards of conduct and tended to be transitory. Agriculture and local manufacturing industries, not mining, were considered to be the roots of a stable, productive society.

The Mormon Church was interested in the orderly development of necessary mining, as evidenced by various church-sponsored mining missions organized between the late 1840s and the 1870s. However, the strong discouragement of unauthorized Mormon participation in mining, and the slow development of church-sponsored mining projects meant that most mining property in Utah became owned by non-Mormon interests.

Self-Sufficiency

The wide variety of economic programs, policies, and planning found in the Mormon economy of nineteenth-century Utah were linked together by the unifying goal of group economic self-sufficiency. Although self-sufficiency was not explicitly stressed during the pre-Utah period, the appearance of self-sufficiency was a natural outcome of the Law of Consecration and Stewardship. Self-sufficiency likely fanned the fires of discrimination already sparked among non-Mormons by the apparent clannishness of the Mormon community. In turn, the general antagonism of their neighbors likely led the Mormons to seek a greater degree of group self-sufficiency.

If group self-sufficiency was considered by Mormons to be desirable prior to 1847, it was critical in the years following the settlement of the Great Basin. With practically no access to outside markets, survival itself dictated a high degree of economic cooperation, planning, and self-sufficiency. The Pacific Railroad Act, which authorized the construction of the transcontinental railroad, was signed by Abraham Lincoln in 1862. By that time, and increasingly as the railroad approached, the self-sufficiency issue was shifting from territorial self-sufficiency dictated by
economic isolation to self-sufficiency within the Mormon majority. This polarization was in response to the perceived threat to Mormon cohesiveness and economic well-being of "gentile" domination of trade in the territory. Ironically, the non-Mormon control of the trade sector was largely a result of Brigham Young's distaste for trade in general, and of his active discouragement of Mormon participation in merchandising. The solution found was twofold. First, in the 1860s, cooperative mercantile and manufacturing enterprises were established in towns and cities throughout the territory, with Z.C.M.I. being the major wholesaler. Second, Mormons were asked to boycott non-Mormon commercial houses. In a general conference of the church in 1868, a vote was taken to disfellowship any Mormon who persisted in sustaining potential "enemies of the church" by patronizing their stores. The establishment of Mormon cooperative stores and the boycott of non-Mormon merchants proved helpful in freeing the Mormon community from dependence on the "gentiles" traders, but it did not achieve the hoped-for Mormon monopoly of trade in the territory.

In summary, early Mormon economic policy had as its goal relative economic equality and the elimination of poverty through the Law of Consecration and Stewardship and other cooperative programs, with a concomitant emphasis of group self-sufficiency. Local industry and agriculture were favored over speculative and transitory mining and trading activities, and a church boycott of non-Mormon businesses encouraged the formation of cooperative Mormon mercantile, manufacturing, and freighting firms. It was in this historical setting of economic planning, cooperation, control, and self-sufficiency that the transcontinental railroad was completed in 1869.

2. Economic and Social Dualism

Utah, in 1869, had a "dual economy." Economic dualism refers to the coexistence of two
sectors in the economy of a less-developed or developing country. The "traditional" sector is characterized by production processes using mainly land and labor, by low wages, and by a relative scarcity of capital. The other sector, usually called the "modern" sector, is characterized by production processes using mainly capital and labor, by higher wages, and by modern technology. Often, the modern sector produces mainly for export, especially in extractive industries, whereas the traditional sector produces mainly for the domestic market. The traditional sector in less-developed countries usually comprises from seventy to ninety percent of the population.

**Economic Structure**

Evidence to support the notion of a dual economy in pioneer Utah can be found in the U.S. census reports for 1860 and 1870. Arrington [1963] used census reports to calculate the percentage of the labor force engaged in various occupations in several western states for years between 1850 and 1950. By identifying occupations as corresponding to either the modern or the traditional sector (or to both), one can use Arrington’s percentages to estimate the fraction of the total labor force comprising each sector. Table 1 gives the results of this procedure applied to Utah for 1860 and 1870. Direct agriculture, occupying approximately half of all workers, is assigned to the traditional sector, along with forestry and fisheries, building trades and construction, and domestic and personal services. Since the majority of unspecified laborers likely were engaged in low-paying agricultural, construction, or Mormon public works employment, the unspecified category is included in the traditional sector. The export-based, capital intensive mineral extraction industry and the transportation, communication, and utilities categories clearly belong in the modern sector. The assignment of the remaining categories—manufacturing, trade, finance and clerical, professional services, and public services—to one category or the other is not as obvious. If one-half of the
Table 1. Utah’s Dual Economy, 1860 and 1870

<table>
<thead>
<tr>
<th>Percentage of Total Working Population Engaged in:</th>
<th>1860</th>
<th>1870</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;Traditional&quot; Sector</td>
<td>&quot;Modern&quot; Sector</td>
</tr>
<tr>
<td>Agriculture</td>
<td>54.5</td>
<td>--</td>
</tr>
<tr>
<td>Forestry &amp; Fisheries</td>
<td>.2</td>
<td>--</td>
</tr>
<tr>
<td>Extraction of Minerals</td>
<td>--</td>
<td>*</td>
</tr>
<tr>
<td>Building Trades and Construction</td>
<td>4.5</td>
<td>--</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Transportation, Communication &amp; Wilderness</td>
<td>--</td>
<td>1.1</td>
</tr>
<tr>
<td>Wholesale &amp; Retail Trade</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Finance &amp; Clerical</td>
<td>.15</td>
<td>.15</td>
</tr>
<tr>
<td>Domestic &amp; Personal Services</td>
<td>3.7</td>
<td>--</td>
</tr>
<tr>
<td>Professional &amp; Related Services</td>
<td>.7</td>
<td>.7</td>
</tr>
<tr>
<td>Public Services</td>
<td>.2</td>
<td>.2</td>
</tr>
<tr>
<td>Laborers–Unspecified</td>
<td>17.7</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>(8.85)</td>
<td>(8.85)</td>
</tr>
<tr>
<td>All Occupations</td>
<td>89.75</td>
<td>10.25</td>
</tr>
<tr>
<td>*Less than 0.5</td>
<td>(80.90)</td>
<td>(19.10)</td>
</tr>
</tbody>
</table>

workers in these categories are assigned to each sector, the final totals show approximately ninety percent in the traditional sector and ten percent in the modern sector in 1860, and eighty-four percent and sixteen percent in the respective sectors in 1870. If half of the unspecified laborers are assigned to the modern sector (as shown by the figures in parentheses in table 1), the totals become eighty-one percent and nineteen percent in traditional and modern sectors, respectively, in 1860, and seventy-six percent and twenty-four percent in 1870. From this rough analysis, it can be conjectured that the traditional sector contained approximately eighty to ninety percent of Utah's labor force in 1860, and approximately seventy-five to eighty-five percent in 1870. Since families of workers in the traditional sector were likely larger, on average, than those of workers in the modern sector, the fraction of the entire population in the traditional sector is probably somewhat understated by looking only at labor force information. Nevertheless, the figures derived above are within the range suggested for the traditional sector in a typical less-developed or developing country.

Other characteristics of Utah's dual economy worthy of note are found in statistics on urbanization and gainful occupation. As would be expected in an agriculture-based dual economy, Utah remained decidedly rural during the pre-railroad period. According to the census, Utah's population in 1860 consisted of forty thousand persons, 79.5 percent of whom were classified as rural. The 1870 census enumerated nearly eighty-seven thousand persons, of whom 81.6 percent were classified as rural.34

Census figures on gainful occupation reveal an interesting difference between Utah and the United States as a whole. In 1870, only 24.6 percent of Utah's population were engaged in gainful occupation, as compared to 32.4 percent for the entire United States. Much of the 7.6 percentage point difference can be explained by differences in demographic composition. Utah's population was significantly younger than that of the United States. Table 2 illustrates this difference. Whereas
Table 2. Some Characteristics of Utah and U.S. Populations in 1870

<table>
<thead>
<tr>
<th>Percentage of Total Population:</th>
<th>Utah 1870</th>
<th>U.S. 1870</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gainfully Occupied</td>
<td>24.8</td>
<td>32.4</td>
</tr>
<tr>
<td>Under 5 Years of Age</td>
<td>19.2</td>
<td>14.3</td>
</tr>
<tr>
<td>Under 10 Years of Age</td>
<td>34.8</td>
<td>26.8</td>
</tr>
<tr>
<td>Under 15 Years of Age</td>
<td>48.2</td>
<td>39.2</td>
</tr>
<tr>
<td>15 Years of Age or Older</td>
<td>51.7</td>
<td>60.7</td>
</tr>
</tbody>
</table>

39.2 percent of the United States population was under age fifteen in 1870, the comparable proportion for Utah was 48.2 percent. Similar differences are found in each younger age category. With a smaller proportion of its population in working-age categories, it is not surprising that Utah had a smaller fraction of its population gainfully employed.35

In addition to differences in the age composition of the population, the absence of substantial manufacturing in Utah in the 1860s probably influenced the reported statistics on gainful occupation. While children of age ten and older would be counted as gainfully employed if they worked in a factory, the same children would not likely be so counted if they were engaged in agricultural work on the family farm. In 1870, only 10.5 percent of gainfully employed Utahns worked in manufacturing, compared to 14.7 percent in the entire United States.36

During the twentieth century, Utah children have typically stayed in school longer, on the average, than have other children in the United States. If this were also the case in the nineteenth century, it would provide another factor to help account for the relatively small proportion of Utah’s population working in 1870. For the school year 1870-71, 19.6 percent of the total population of Utah was enrolled in elementary or secondary schools, with the average daily attendance comprising 14.8 percent of the population.37
The net result of the demographic forces at work in pioneer Utah was a larger part of the total population in nonworking categories; meaning a smaller part of the population available to produce output for the entire society—a common plight of dual economies.

Social Dualism

Economic dualism in a developing region is not unusual. Pre-railroad Utah, however, also experienced social dualism. The traditional economic sector was comprised predominantly of Mormons, and was directly influenced in economic matters by the policies of the church. The modern sector was dominated by non-Mormons—particularly in mining, transportation, and trade—and was strongly influenced by trends in the larger capitalist economy of the United States. This double dualism—the traditional Mormon sector and the modern “gentile” sector, combined with the influence of the railroad, led Utah down a path which diverged from that traveled by most dual economies in the process of economic development.

3. Mormon Economic Policy After 1869

Economists tend to view the dual economy as bearing the seeds of its own destruction. The typical pattern of economic assimilation might be initiated or accelerated by a change in the relative profitability of production in the two sectors, such as occurred in Utah with the completion of the transcontinental railroad. In such a circumstance, the export-based modern sector would benefit from the lower transportation costs, but the traditional domestic-serving sector would be faced with increased competition from now-cheaper imports. Labor would become more valuable to producers in the modern sector, and the higher wages there would bid labor away from the traditional sector.

As labor left the traditional sector, the land/labor ratio would rise, increasing the
productivity of labor in that sector and putting upward pressure on wage rates. As wage rates rose, farmers and traditional manufacturers would begin to replace the relatively more-expensive labor with capital. This process would be expected to continue, with a movement of labor from the traditional to the modern sector and an increase in the use of capital in the traditional sector, until the wage differential between the sectors had all but disappeared, the modern technology had permeated all sectors of the economy, and economic dualism had been eliminated. This typical pattern of assimilation was resisted, more or less successfully, by Mormon economic policy for a quarter-century after the completion of the railroad.

The response of Mormon leaders to the construction of the transcontinental railroad was mixed. On one hand, the railroad would provide a safe, cheap, and rapid method of moving goods and people to the territory. Mormon immigration would be made easier, and consumer goods could be imported at reasonable cost from the manufacturing centers of the East and the farmlands of the Midwest. In addition, heavy machinery could be carried by rail to Mormon communities to assist the development of local manufacturing.

On the other hand, both Mormons and non-Mormons recognized that the railroad would bring economic and social changes which threatened to erode or destroy traditional Mormon attitudes and institutions. “The healthy tide of civilization will soon flow in upon these people, and B. Young and his theories will be swept away before it,” editorialized the anti-Mormon Salt Lake Daily Reporter in 1868. “Mormonism will have its death knell sung by the bell of the first locomotive that thunders through Utah.”

Brigham Young’s response to the prophesies of doom was generally to the effect that Mormonism “must, indeed, be a ______ poor religion, if it cannot stand one railroad.” Underneath the public optimism about the ability of their religion and institutions to withstand the
assimilative pressures which would inevitably follow the linkup, Mormon leaders were fully aware of the necessity of a well-organized, unified resistance. This concern was, on occasion, made public.

George Q. Cannon, addressing a church conference in 1868, summarized the situation:

> We are told—openly and without disguise, that when the railroad is completed there will be such a flood of so-called “civilization” brought in here that every vestige of us, our church and institutions shall be completely obliterated. When we are told thus plainly and undisguisedly, would it not be folly, nay insanity, for us to sit still, fold our arms supinely and await the crash without making a single effort to ward it off?40

**Immigration, Importation, and Mining**

The general concern for survival expressed above was based on practical considerations. Arrington has identified three interrelated problems which faced Latter-day Saint leaders as the railroad neared completion.41 First was the problem of financing immigration; in particular, of raising additional cash to pay the railway fares of Mormon converts from Europe. The second problem was the flood of cheap consumer goods which would flow into the territory over the newly-completed rails. Third, with the completion of the railroad, mining activity in the region was certain to expand rapidly.

Immigration of poor Mormons in the 1860s had been expedited with relatively little cash expenditure by the use of “Church Trains” formed from the labor, wagons, mules, oxen, and produce donated by church members in return for tithing credits. These wagon trains made the 2,200 mile trip from the Salt Lake Valley to the Missouri Valley and back in six months. Utah flour and other exports were sent east for sale, and machinery and other goods purchased with the proceeds were carried back to Utah with the immigrants. Between 1861 and 1868, approximately 2,000 wagons, 2,500 men, and 17,500 oxen carried 1.3 million pounds of flour east on Church Trains and assisted more than 20,000 European immigrants to Utah. The cost to the church of this
immigration totaled about $2.4 million, almost all of which was borne by voluntary contributions of labor, equipment, and provisions.42

The Pacific railroad would provide a cheaper, faster, and safer method of transporting Mormon immigrants to the Great Basin, but the rail fares could only be purchased with cash. Cash, unfortunately, continued to be extremely scarce in Utah. Though the Mormons made use of various substitutes for cash in their own transactions, these would be of little help in the purchase of railway tickets for immigrants. Furthermore, the basic cause of the cash shortage, the importation of consumer and capital goods from the States, undoubtedly would be exacerbated by the completion of the railroad. In particular, the greater assortment and increased availability of consumer goods from the East and the Coast would surely lead to an even more rapid outflow of money from the territory. The importation of cheap consumer goods posed more than a balance-of-payments problem. Mormon leaders feared that the cheaper manufactured goods might destroy local industries, put profits in the hands of enemies of the church, and disemploy a substantial number of Mormon industrial workers. These displaced workers, it was felt, would have difficulty finding employment in agriculture, since Utah's high-cost irrigation agriculture would now be faced with increased competition from cheap, imported midwestern wheat and produce, and might also be forced to contract. In addition, new immigrants—up to 3,000 per year—and Utah's high rate of natural population increase would mean greater competition for scarce agricultural and manufacturing jobs. Where could the displaced and new workers find employment? The obvious answer was "mining."

Mining, in fact, seemed to provide a solution to many of the knotty problems facing the Mormon economy. Not only would mining and its associated activities provide jobs for displaced workers and immigrants, but it would create an export product which could alleviate the territorial
cash shortage and pay for additional immigration and the importation of consumer and capital
goods. The balance-of-payments problem would be resolved, and average income in the region
would increase. Comparative advantage in 1869 clearly dictated Mormon participation in the
development of Utah Territory’s vast mineral resources. In spite of the apparent economic
advantages of church participation in mining development, persuasively argued by several prominent
Mormons, existing Mormon policy toward mining held firm.43 There was to be no uncontrolled
development, no appeasement, no cooperation with gentile capitalists, and no “gold fever” among
the Mormons. Self-sufficiency and relative equality, it was felt, could not be achieved through
capitulation to the spirit of capitalism.

Having rejected the idea of active participation in the development of large-scale mining,
church leaders were directly faced with finding alternative solutions to the immigration,
employment, and balance-of-trade problems. With the future of mineral extraction left to
non-Mormons, an additional problem was raised: how to deal with the influx of “gentile” miners,
laborers, and speculators who would be drawn by the expansion of Utah mining. Accepting the
inevitability of mining development, Mormon leaders reasoned that controlled participation by
Mormon workers in the mines could serve a multiple purpose: surplus Mormon labor would find
remunerative employment, more cash would be available to finance immigration, and the
importation by mine owners of labor from outside the territory would be obviated or reduced.44
Mormon participation in the mines was carefully controlled. Individuals desiring to perform such
work were first to gain permission from their bishop—the local ecclesiastical authority—who would
determine if the community could spare their labor. Mormon miners were advised to work for cash
rather than for speculative mining claims, and to use the cash to purchase productive land and
capital.45
Self-Sufficiency

Limited participation by church members as day-laborers in the mines was only a small part of the Mormon effort to counter the centrifugal effects on their society of the completion of the railroad. The overall thrust of the policies outlined by Brigham Young in the 1860s and 1870s was toward increased self-sufficiency among the Mormons and greater control of economic activity in the territory.

Commercial policy. The church boycott of non-Mormon merchants and the formation of church-sponsored wholesale and retail cooperatives, initiated in the late 1860s, formed the heart of Mormon commercial policy. Designed to absorb the businesses of existing Mormon merchants, these co-ops laid the foundation for what was hoped would be a Mormon monopoly of trade in the territory. Though a complete monopoly was never achieved, the policy appeared to be successful, at least initially, in increasing Mormon influence in the commercial sector. Z.C.M.I. and many local cooperatives prospered, a number of non-Mormon merchants left the territory, and those who remained reported sharp reductions in sales. The superintendent of Z.C.M.I. claimed that the institution had saved the Mormons $3 million during its first four years in the form of lower prices.46

The United Order. The announcement of the church’s commercial policy served to prepare Mormons for the introduction of cooperation on a far wider scale— the United Order of Enoch. Organized as a system of producer cooperatives, the United Order was the most ambitious Mormon attempt to institute a utopian economic system. Individuals desiring to join a branch of the United Order were required to “consecrate” all of their labor and (depending on the type of order) part or all of their economic property, and were expected to participate in cooperative production activities as directed by their elected leaders. Although the structure of the United Order differed from that of the earlier Law of Consecration and Stewardship, its principles and economic purposes were
similar. These purposes included: (l) substantial increases in income and productivity as a result of the pooling of capital and labor; (2) the disappearance of poverty; (3) the elimination of economic inequity; (4) monopoly power in trade, exercised through purchasing and selling agents; (5) the use of surplus income to develop new products and to establish import replacement industries; (6) financing of the expansion of Mormon settlement to the south and west; and (7) the protection of the economy from the price fluctuations and business cycles which disrupted the capitalist economy.47

Between 1874 and 1893, more than two hundred branches of the United Order are known to have been established in Mormon communities in the Great Basin and in Mexico. Most branches were organized in 1874 and 1875, and a majority of those had failed by 1877, the year of Brigham Young's death. A very few continued into the 1880s, and at least one survived into the twentieth century.48 Though a majority of Mormons probably were associated with a branch of the United Order at some time during the 1870s, only a small fraction of church members had any lengthy experience within the system. Nevertheless, the Mormon United Order was an important symbol of resistance, perfection, and "separateness" to a people beleaguered from without and struggling to maintain their identity.49

Church-sponsored enterprises. The Mormon drive for self-sufficiency, accelerated by the construction of the transcontinental railroad, reached into every sector of the Great Basin economy. In addition to the formation of numerous wholesale and retail cooperatives, the church sponsored enterprises in agriculture, forestry, mining, manufacturing, finance, transportation, and communication.

Because of the high cost and uncertainty of wagon freighting in the Rocky Mountain region, self-sufficiency in agricultural staples had been a necessary part of Mormon economic policy from
the time of settlement. Mormon settlers were successful in growing wheat and other grains, potatoes, fruits, and vegetables in most parts of the territory, and they found the northern Great Basin particularly well suited for cattle grazing and dairying. Goods such as sugar, tea, coffee, tobacco, liquor, and cloth, however, were not initially produced in the region, or were produced in quantities insufficient to meet territorial demand. Hence, these goods had to be imported—at what was considered to be an unacceptably high pecuniary and strategic cost.  

The church attempted to combat the outward flow of money from the territory, and the dependency that flow represented, by promoting cultivation of a wide variety of agricultural products within the Great Basin. Sugar beets were grown successfully in Utah as early as 1850, and when attempts to produce sugar from the beets failed, the church promoted the culture of sorghum cane. Molasses from sorghum cane was the principal source of sweet in Utah until beet sugar processing was successfully established in the 1890s.  

Self-sufficiency required, in addition to the production of food staples, the provision of adequate amounts of regionally produced cloth. To this end, the church introduced cotton and flax cultivation and sericulture into the territory and encouraged production of wool. The “Cotton Mission” involved more than a thousand families who were sent to southern Utah in the 1860s and 1870s to grow cotton. They were also expected to provide the territorial supply of sugar cane, grapes, hemp, rice, tobacco, figs, grain sorghum, indigo, almonds, olive oil, and other needed semitropical products. Though the Cotton Mission never did accomplish the ambitious goal of territorial self-sufficiency in cotton, some cotton was still being produced as late as the 1890s. Tobacco and many of the other semitropical products which Brigham Young had hoped would be produced in southern Utah were never grown on an extensive scale. Some cultivation experiments, most notably grain sorghum and grapes—and their products molasses and wines, were successful,
however. Flax was grown in Utah as early as 1857, and was used for sewing thread and grain sacks. The production of sheep and wool was also encouraged by the church, which disseminated information on improved sheep care and encouraged the formation of cooperative sheep associations. Partly as a result of this encouragement, the number of sheep in the territory increased from about 37,000 in 1860 to approximately 60,000 in 1870, 235,000 in 1880, and to more than one million by 1890. The church encouraged similar cooperative arrangements to increase the quantity and quality of cattle in the territory.

A silk industry was also established in the Great Basin. Mulberry seed was imported from France, silkworm eggs were obtained, and a “Silk Mission” was organized to promote silk cooperatives in every Utah community. Proposed by Brigham Young in the 1850s, sericulture was pushed by Mormon authorities from the mid-1860s through the 1870s, and local cooperative silk production continued into the 1890s.

Water—the most critical resource in the agricultural self-sufficiency drive—was conserved and distributed by irrigation cooperatives formed at the ecclesiastical ward or community level. Disputes over water rights were usually adjudicated by church authorities or church courts.

A lumber industry was developed in Utah, with sawmills eventually being located in most areas where water and timber were accessible to settlements. Many of these sawmills, particularly those put into operation in the 1870s, were church-sponsored cooperative ventures.

While church policy regarding the participation of Mormon workers in large-scale mining operations was designed to blunt the negative effects on Mormon society of the completion of the railroad, church leaders had also formulated a positive strategy for the orderly development of Utah’s “useful” minerals. Whereas a church “Gold Mission” to California in 1849-1851 had been
useful primarily in providing a circulating medium of exchange and a convertible currency for "foreign" trade, the mining of lead, iron, copper, tin, zinc, and coal was expected to stimulate economic growth. An "Iron Mission" in southern Utah produced some iron as early as 1850, and during the 1870s, church-sponsored iron production reached five tons per day, with the iron being manufactured into cast iron stoves, flat iron, mining machinery, and other items.

Coal reserves were discovered in southern, central, and eastern Utah, and were utilized in the iron-making process. The reserves in Summit County were developed by a church "Coal Mission," which settled the town of Coalville and freighted coal to Salt Lake Valley to supplement the increasingly scarce timber resources. A "Lead Mission" worked lead reserves near Las Vegas Springs in the 1850s, and a church mission in Beaver County, Utah, worked local lead, zinc, and silver deposits. Many tons of lead bullion from this operation were used by the church Department of Public Works to make bullets and paint.

Cooperative manufacturing had been important in pre-railroad Utah because of the isolation of the region from sources of manufactured products. Much of the early manufacturing in Utah was undertaken by the Department of Public Works. In addition to supervising the "tithing labor" of various workmen on public projects, the department's carpenter, paint, stonecutting, and blacksmith shops, lime kiln and adobe yard also hired full-time employees for private projects. The first light industry in the Great Basin was established by the Public Works Department as a machine shop (1852-1864), a foundry (1854-1864), and a nail factory (1859-1865). Paper, pottery, and sugar manufacturing enterprises were also operated by the Public Works Department in the 1850s and later.

During the 1860s, efforts were made to develop a regional textile manufacturing industry to utilize native-grown cotton, wool, flax, and silk. Cotton spinning mills were established on a
cooperative basis in several southern Utah communities during this period. With machinery purchased in England and St. Louis in the 1850s and 1860s, and freighted to Utah by church team, the church erected “Brigham Young’s Woolen and Cotton Factory” which operated from 1863 to 1865 and provided the first commercial market for wool in the territory. The factory was dismantled in 1865 and sent to southern Utah as part of the church’s effort to stimulate the struggling cotton industry. A new factory, the “Washington Cotton Factory” was constructed in 1866-1867. Operated as a cooperative from 1871 to 1888, and as a church enterprise thereafter, the Washington Cotton Factory produced cloth until 1910.

The 1870s saw the formation of a large number and variety of church sponsored cooperative manufacturing enterprises. Z.C.M.I., for example, established a tannery, a boot and shoe factory, and a clothing manufacturing factory in the 1870s. The shoe and boot factory was employing an average of 180 workers and was producing more than 160,000 pairs of boots and shoes annually by the late 1880s. By 1881 the clothing factory was turning out more than 50,000 articles of clothing annually, and was producing more than 4,300 items of overalls and men’s underwear per week by 1888. At the turn of the century, both factories were still being operated at capacity, with the clothing factory using 750,000 yards of material annually.

Local cooperatives expanded their operations from merchandising to manufacturing by devoting earnings to the establishment of cooperative butcher shops, blacksmith shops, dairies, carding machines, gristmills, sawmills, tanneries, boot and shoe shops, molasses mills, furniture shops, and to similar enterprises; and to the purchase of cooperative threshing and mowing machines. Many of the local cooperative mercantile and manufacturing enterprises established during the late 1860s and early 1870s were incorporated into branches of the United Order in the middle 1870s.
Cooperative textile factories, according to Arrington, made the greatest direct contribution to the industrial development of Utah Territory. Cooperative woolen mills were established in eleven Mormon communities in Utah, Idaho, Wyoming, and Arizona and three existing cooperative cotton factories were converted to the production of woolen goods in the 1870s. Most of these operated successfully until the turn of the century.\textsuperscript{72}

Mormon cooperative endeavors also extended into the banking area. Organized by leading Mormon merchants in 1868, the first of the cooperative banks was called “Zion’s Co-operative Banking Institution” after Brigham Young became a leading stockholder in 1869. Incorporated as the Bank of Deseret under territorial charter in 1871, it later became Deseret National Bank and remained the leading bank in the region during the period of this study.\textsuperscript{73} A “cooperative” savings bank, Zion’s Savings Bank & Trust Company was established by Deseret stockholders and the church in 1873. During the last quarter of the nineteenth century, Zion’s Savings made loans to a wide variety of investment projects, including canal, sugar, salt, power, real estate, and railroad companies.\textsuperscript{74}

The concern expressed by Mormon leaders about an influx of “gentile” workmen into the territory was not caused only by the imminence of mining development which would follow the railroad completion. The very construction of the railroad through Utah territory would entail the importation of thousands of workmen. Faced with this potential disruption of their society and economy, Brigham Young and other Mormon leaders were more than happy to contract with the railroads to do grading, tunneling, bridge masonry, and other work. Mormons constructed the Union Pacific road from the head of Echo Canyon to the shores of Great Salt Lake—a distance of about 150 miles, and built 200 miles of Central Pacific road From Humboldt Wells, Nevada, to Ogden, Utah. The two contracts together were worth well over six million dollars.\textsuperscript{75} The bankrupt
Union Pacific Railroad Company was unable to meet its payments on the contract, and finally agreed to settle the last million or more owed to Mormon contractors with about a half-million dollars in iron and rolling stock, with $200,000 to be paid later. The failure of both the Union Pacific and the Central Pacific companies to fully satisfy the contracts created enormous difficulties for the Mormon Church, the subcontractors, and the Mormon workmen who built the roads. The experience gained from the contracts, however, convinced Mormon leaders that a network of railroad branch lines could be constructed in the Great Basin by the Mormons themselves, and the settlement of the U.P. contract provided necessary materials.

The first of the “Mormon” railroads, the Utah Central Railroad, was constructed from Ogden to Salt Lake City during the summer and fall of 1869. The last spike was driven in January 1870. Construction of the line was a cooperative venture, with Mormon communities on the route providing the necessary labor, timber, and supplies. During the years 1871-1878 the church-sponsored Utah Southern was constructed 105 miles south from Salt Lake City to Juab County. The line was later extended to Frisco, Utah by private interests. The Utah Northern Railroad, the third major Mormon railway, was built from Ogden, Utah, ninety miles north to Franklin, Idaho between 1871 and 1874. In private hands after 1878, the line eventually was extended to Garrison, Montana. Another Mormon railroad project, the Summit County Railroad, was intended to move coal from Coalville to Salt Lake City at more reasonable prices than could be obtained from the Union Pacific Railroad. Nine miles of the projected twenty-six were completed by the fall of 1873, but the road never did achieve its objectives, and was eventually controlled by the Union Pacific. A final church-sponsored railroad was the Salt Lake City Street Railroad. Initiated by private Mormon interests in 1872, the railroad was obtained by the Mormon Church in 1873. By 1883 the line's nine miles of track extended to every important part of Salt Lake City.
Eighty-four mules pulled the railroad's fourteen cars.82

During the 1860s, Mormons had undertaken to improve regional communications in much the same way as they built a transportation network in the 1870s. Plans were formulated in 1861 to build a telegraph line from north to south through the territory. During 1866-1867, the initial 500-mile line connecting Mormon settlements between Logan, Utah, in the north and St. George, Utah, in the south was completed and put into operation. The line was later extended to connect virtually all Mormon communities from southern Idaho to northern Arizona and southeastern Nevada. By 1880 the 68 offices of the Deseret Telegraph were connected by 1,000 miles of poles and 1,200 miles of wire. The line was built by voluntary labor and operators were paid through voluntary donations.83

The Mormon drive for self-sufficiency through cooperative endeavors had a dual purpose. On one hand, it was designed to resolve some very pressing economic problems: balance-of-payments deficits, unemployment, cash shortages, speculation, monopoly exploitation, and economic instability. On the other hand, the policy of cooperation and self-sufficiency was a defensive measure to help preserve Mormon institutions and group identity from the inroads of capitalistic institutions and attitudes.

4. Mormon Economic Policy and Economic Development

In economic jargon, Brigham Young's self-sufficiency program would be termed import-substituting industrialization. Experience has shown that for such a policy to be successful, import substitution ordinarily must be combined with temporary protection from relatively cheap imports through the imposition of tariffs or quotas. In addition, the industries being protected must have a reasonable chance of survival. For a number of reasons, including location, insufficient
capital, inadequate resources, and inadequate expertise, a number of Utah's infant industries were doomed from the start. The Iron Mission, for example, suffered from several of these difficulties and failed on a mountain of 200,000,000 tons of fifty-two percent iron ore. In protecting import-replacement industries, Brigham Young was at a severe disadvantage. There was no legal way that he could restrict imports. He did, however, exercise his influence and authority as President of the Mormon Church to induce individuals to restrict their purchases of imported goods. Almost every sermon given by Brigham Young from 1868 until his death in 1877 dealt in part with the topic of self-sufficiency. The relatively weak protection of infant industries available to Brigham Young may have been a net advantage to the development of Utah's economy, as noncompetitive economic activities were eliminated relatively early. Only those infant industries that could develop their comparative advantage protected solely by the frail barrier of religious commitment remained. The dislocation which occurred as the less successful infant industries failed was handled with relative ease in the well-ordered and planned Mormon economic system.

One of the problems which import-substitution is specifically designed to resolve is a trade deficit. Utah's trade deficit with the rest of the nation was a particularly difficult problem. The automatic mechanism of adjustment through gold flows or foreign exchange markets which tends to correct trade imbalances did not work well in Utah. Utah did not have an acceptable convertible currency, and most of the import surplus was facilitated through the outflow of gold. Ordinarily, the gold outflow would lead to a reduction of the money supply and a reduction in "domestic" prices. The change in relative prices of "domestic" and "foreign" goods would increase the volume of exports, reduce the volume of imports, and effectively eliminate the trade imbalance. In the case of Utah vis-a-vis the rest of the United States economy, the mechanism was subverted by the fact that the Mormon economy used various substitutes for money which were not based on gold and
were not acceptable in “foreign” trade. In addition, domestic prices were regulated to a great extent by tithing price lists, which were adjusted only rarely before the 1880s. Thus, the flow of gold from Utah was the cause of much concern on the part of Mormon leaders, but it did not lead to a reduction in Utah’s prices relative to those in the United States, and so did not eliminate the trade imbalance. With no automatic adjustment of the trade deficit, import substitution was particularly important to Mormon leaders.

**Financing Economic Development**

In any economy undergoing the process of industrialization, the cost of development must be paid through some sort of saving, voluntary or forced. In a typical dual economy, the necessary saving is extracted from the traditional sector by the modern sector. This squeeze on the traditional sector can take many different forms. For example, the extraction of surplus from the traditional sector might be accomplished through controlling the price of agricultural output. Such price control was evident in nineteenth-century Utah, but for the opposite purpose—to prevent speculators from extracting a surplus from traditional producers and consumers. Other Mormon economic policies were designed to serve the same purpose.

How, then, was economic development financed in nineteenth-century Utah? First, in the traditional sector, the self-sufficiency programs and the emphasis on cooperative ventures provided an internal surplus. Most Mormon development projects were accomplished through donations of labor, materials, produce, and cash. The flow of tithing donations provided the most important source of development funds. Table 3 shows tithing receipts of the Mormon Church for selected years between 1855 and 1900. These receipts were used for direct investment in church enterprises, and as a source of loans or transfers to individuals for private economic development. The transfer of income was accomplished to a large extent through the system of book credit.
Table 3. Tithing Receipts for Selected Years, 1855-1895

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Dollars</th>
<th>Constant (1855-1857) Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1855</td>
<td>$110,600</td>
<td>$110,700</td>
</tr>
<tr>
<td>1857</td>
<td>$299,600</td>
<td>301,700</td>
</tr>
<tr>
<td>1861</td>
<td>$393,900</td>
<td>399,500</td>
</tr>
<tr>
<td>1866</td>
<td>$494,900</td>
<td>500,900</td>
</tr>
<tr>
<td>1870</td>
<td>$379,300</td>
<td>426,200</td>
</tr>
<tr>
<td>1875</td>
<td>$445,800</td>
<td>651,800</td>
</tr>
<tr>
<td>1880</td>
<td>$573,400</td>
<td>1,022,100</td>
</tr>
<tr>
<td>1885</td>
<td>$830,800</td>
<td>1,802,200</td>
</tr>
<tr>
<td>1890</td>
<td>$878,400</td>
<td>2,168,900</td>
</tr>
<tr>
<td>1895</td>
<td>$601,700</td>
<td>2,148,900</td>
</tr>
</tbody>
</table>

Source: General Economic Records (MSS.), Church Archives, Church of Jesus Christ of Latter-day Saints.

mentioned in the first section of this paper. Individuals in good standing with Brigham Young, for example, could purchase capital and materials from Mormon establishments on Brigham Young's account with the merchant. In turn, the individual's account with Brigham Young would be debited for the amount of the purchase. Credits and debits in Young's books often represented transactions with the tithing offices. This system provided an important mechanism through which economic development, welfare relief, and social investment projects could be financed. The operation of the system also produced a substantial redistribution of income. Table 4 gives a summary of the accounts in Brigham Young's ledgers for the period 1853-1879, and Table 5 shows the volume of transactions in Young's ledgers as a percentage of territorial personal income during years for which income data is available. Several characteristics of the tables are of interest. First, the sheer dollar volume of transactions which went through Young's books is remarkable, with debit transactions alone exceeding $3 million in 1872. Debit entries represented more than 30% of total territorial personal income in 1870. The large volume of transactions between 1870 and 1874 reflects
### Table 4. Brigham Young’s Ledgers, 1853-1879: Account Summaries

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Active Accounts</th>
<th>Debits</th>
<th>Credits</th>
<th>Net Credit Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1853</td>
<td>152</td>
<td>$102,918.68</td>
<td>$99,039.46</td>
<td>($3,879.22)</td>
</tr>
<tr>
<td>1854</td>
<td>258</td>
<td>$170,317.62</td>
<td>$160,108.13</td>
<td>($10,209.49)</td>
</tr>
<tr>
<td>1855</td>
<td>205</td>
<td>$258,745.36</td>
<td>$257,866.60</td>
<td>($878.76)</td>
</tr>
<tr>
<td>1856</td>
<td>192</td>
<td>$47,660.84</td>
<td>$46,102.89</td>
<td>($1,557.95)</td>
</tr>
<tr>
<td>1857</td>
<td>196</td>
<td>$59,557.33</td>
<td>$60,541.06</td>
<td>$983.73</td>
</tr>
<tr>
<td>1858</td>
<td>258</td>
<td>$102,039.30</td>
<td>$75,371.40</td>
<td>($26,667.90)</td>
</tr>
<tr>
<td>1859</td>
<td>378</td>
<td>$250,022.27</td>
<td>$188,281.66</td>
<td>($61,740.61)</td>
</tr>
<tr>
<td>1860</td>
<td>452</td>
<td>$188,713.02</td>
<td>$119,990.50</td>
<td>($68,722.52)</td>
</tr>
<tr>
<td>1861</td>
<td>669</td>
<td>$254,843.45</td>
<td>$169,804.45</td>
<td>($85,039.00)</td>
</tr>
<tr>
<td>1862</td>
<td>898</td>
<td>$732,887.16</td>
<td>$449,643.60</td>
<td>($283,243.56)</td>
</tr>
<tr>
<td>1863</td>
<td>767</td>
<td>$489,542.57</td>
<td>$337,799.45</td>
<td>($151,743.12)</td>
</tr>
<tr>
<td>1864</td>
<td>766</td>
<td>$569,966.39</td>
<td>$332,635.00</td>
<td>($237,331.39)</td>
</tr>
<tr>
<td>1865</td>
<td>478</td>
<td>$547,415.33</td>
<td>$337,340.37</td>
<td>($210,074.96)</td>
</tr>
<tr>
<td>1866</td>
<td>435</td>
<td>$1,198,530.57</td>
<td>$711,881.02</td>
<td>($486,649.55)</td>
</tr>
<tr>
<td>1867</td>
<td>402</td>
<td>$975,681.90</td>
<td>$928,988.19</td>
<td>($53,306.29)</td>
</tr>
<tr>
<td>1868</td>
<td>255</td>
<td>$625,249.36</td>
<td>$530,101.82</td>
<td>($95,147.54)</td>
</tr>
<tr>
<td>1869</td>
<td>248</td>
<td>$726,301.57</td>
<td>$556,215.62</td>
<td>($170,085.95)</td>
</tr>
<tr>
<td>1870</td>
<td>259</td>
<td>$2,748,115.79</td>
<td>$1,900,167.70</td>
<td>($847,948.09)</td>
</tr>
<tr>
<td>1871</td>
<td>316</td>
<td>$2,830,713.31</td>
<td>$1,949,300.34</td>
<td>($881,412.97)</td>
</tr>
<tr>
<td>1872</td>
<td>224</td>
<td>$3,066,742.00</td>
<td>$2,733,927.00</td>
<td>($332,815.00)</td>
</tr>
<tr>
<td>1873</td>
<td>164</td>
<td>$1,104,556.53</td>
<td>$899,109.48</td>
<td>($204,947.05)</td>
</tr>
<tr>
<td>1874</td>
<td>134</td>
<td>$1,047,110.10</td>
<td>$1,057,577.42</td>
<td>$10,467.32</td>
</tr>
<tr>
<td>1875</td>
<td>145</td>
<td>$796,780.95</td>
<td>$704,756.49</td>
<td>($92,024.46)</td>
</tr>
<tr>
<td>1876</td>
<td>139</td>
<td>$599,245.22</td>
<td>$834,248.53</td>
<td>$235,003.31</td>
</tr>
<tr>
<td>1877</td>
<td>116</td>
<td>$775,337.85</td>
<td>$558,219.74</td>
<td>($217,118.11)</td>
</tr>
<tr>
<td>1878</td>
<td>7</td>
<td>$18,395.86</td>
<td>$64,429.08</td>
<td>$46,033.11</td>
</tr>
<tr>
<td>1879</td>
<td>4</td>
<td>$0.00</td>
<td>$279.00</td>
<td>$279.00</td>
</tr>
</tbody>
</table>

**Total**  
$20,286,890.33 $16,063,716.00 ($4,223,174.33)

Source: Brigham Young Ledgers A-F
### Table 5. Volume of Transactions in Brigham Young's Ledgers as a Percentage of Total Territorial Personal Income, 1855-1875

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Territorial Personal Income</th>
<th>Debits</th>
<th>Credits</th>
<th>% of Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1855</td>
<td>1857</td>
<td>1859</td>
</tr>
<tr>
<td></td>
<td>$2,929,290.00</td>
<td>$258,745.00</td>
<td>$257,866.00</td>
<td>8.83</td>
</tr>
<tr>
<td></td>
<td>$4,398,576.00</td>
<td>$59,557.00</td>
<td>$60,541.00</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td>$4,950,336.00</td>
<td>$250,022.00</td>
<td>$188,282.00</td>
<td>5.05</td>
</tr>
<tr>
<td></td>
<td>$5,883,472.00</td>
<td>$254,843.00</td>
<td>$169,804.00</td>
<td>4.33</td>
</tr>
<tr>
<td>1866</td>
<td>$8,614,100.00</td>
<td>$1,198,531.00</td>
<td>$711,881.00</td>
<td>13.91</td>
</tr>
<tr>
<td>1870</td>
<td>$9,042,297.00</td>
<td>$2,748,116.00</td>
<td>$1,900,168.00</td>
<td>30.39</td>
</tr>
<tr>
<td>1875</td>
<td>$11,044,224.00</td>
<td>$796,781.00</td>
<td>$704,756.00</td>
<td>7.21</td>
</tr>
</tbody>
</table>

Source: Israelsen [1982], Table 4; Brigham Young Ledgers, A-F.

Brigham Young’s involvement in capital transactions connected with the construction of railroads in the territory. The second interesting characteristic of Young’s accounts is the systematic dominance of aggregate debits over aggregate credits. Net credit balance is negative in all but four years, and for the period as a whole debits exceed credits by twenty-six percent. The negative net credit balance represents a transfer of more than $4.2 to Brigham Young's debtors in the quarter century before Young’s death, a sum equal to an entire year’s territorial personal income in the late 1850s, half of yearly territorial income in the late 1860s, or one-third year’s income in the late 1870s. Since Brigham Young was the territory’s largest landowner, part of the income redistribution represents land transfer. The largest part, however, represents withdrawals of commodities from the church’s system of tithing stores. Individuals, on Brigham Young’s order, were allowed to draw provisions from a tithing office on Young’s account. The amount of the withdrawal would be debited to the individual’s account with Young, and to President Young’s account with the tithing
office. Hence, the system of book credit and tithes provided a means of transferring real income from tithepayers to entrepreneurs and social welfare uses.

For the modern sector, the growing mining industry in Utah was important in providing funds to finance the importation of capital. The modern sector also benefited from a substantial infusion of "foreign" capital. In terms of finance, then, the two sectors developed somewhat autonomously, with the traditional Mormon sector attempting to become self-sufficient through a process of internal income redistribution and import-substitution.

One characteristic of assimilation experienced by most dual economies is the squeeze in the terms of trade between the two sectors—in favor of the modern sector. In Utah, the control of agricultural prices through price maintenance programs and through tithing price-setting, the control of retail prices through the establishment of cooperative mercantile and manufacturing enterprises, and the control of transportation costs through the construction of Mormon railroads helped prevent the squeeze on the terms of trade predicted by standard historical experience. Although Utah, like the rest of the United States, experienced a post-Civil War decline in agricultural prices, any deterioration in the terms of trade which did occur could be contained within the Mormon sector to the extent that the self-sufficiency and import-substitution programs were successful. The success of the price control programs in Utah can be illustrated by the course of tithing prices and U.S. market prices over the 1855-1900 period. Figures 1 and 2 show tithing and market prices for wheat and butter. Notice the exceptional stability of tithing prices relative to U.S. wholesale prices until the late 1880s. It is clear that by the 1890s, tithing prices were not being set independent of outside market prices.
Wheat Prices
(price per bushel)

Figure 1. Wheat Prices

Butter Prices
(price per pound)

Figure 2. Butter Prices
Another way in which the traditional sector is squeezed in the process of economic development is through the transfer of human capital via migration. The difference in wage rates between the sectors attracts workers from the traditional sector to the modern sector. In the case of contemporary less-developed countries, this poses no major problem, since the traditional sector is typically overpopulated and suffering from underemployment. In Utah, population pressures in the traditional Mormon sector had become rather severe in the 1870s and 1880s.

The flow of human capital, however, was not in the direction of the modern sector. One outlet for population pressure utilized by Brigham Young and his successors was planned colonization. This movement of labor to the western and southern limits of the Great Basin was not undertaken in response to individual economic incentives, but in response to religious conviction and economic planning. This was also true of the economic development of Utah in a larger sense. The availability of a labor force which can provide both the skills necessary for industrialization to proceed and a growing market for industrial output is vital if a country is to achieve modern economic growth. Most countries have been forced to depend on a change in demographic factors—higher birth rates, lower mortality rates, etc.—or on the attractiveness of their country to immigrants to obtain the necessary growth in the labor force. It seems clear that from this standpoint, at least, Mormon domination of the traditional sector in Utah was critical. The tremendous increase in population that occurred in Utah from settlement to statehood can be attributed mostly to religious ties rather than to economic opportunity; indeed, the Mormons had chosen to settle in the Great Basin precisely because of its economic unattractiveness.

Structural Change

The policies of self-sufficiency and import replacement followed by Mormon leaders throughout the pre-statehood period in Utah led to the development of a diversified Mormon
economy. The persistence with which these policies were pursued, in spite of the pressures toward assimilation which followed completion of the transcontinental railroad, enabled the “traditional” Mormon sector to undergo its own process of economic development more or less independently of the “modern” sector or “foreign” capital. Mormon economic policy succeeded in keeping the mining sector a relatively unimportant superstructure, in contrast to developments in surrounding states. Because of its diversification, Utah’s economy was able to avoid the period of economic colonialism and instability experienced in western states heavily dependent on mining. It wasn’t until after statehood that Utah’s economy became subject to the influence of eastern capital and extensive resource exploitation. Even then, the period of economic colonialism was likely shorter, and its effects smaller, than would have been the case had Utah’s economy not experienced the long period of development and diversification before statehood. The similarities between Utah’s economic structure and that of the United States during the 1850-1900 period are illustrated in Table 6, which shows the percentage of the overall labor force in agriculture, mining, and manufacturing for Utah and the U.S. It is also of interest to contrast the industrial structure of Utah with that of the other Rocky Mountain states. For example, in 1860, whereas Utah had almost fifty-five percent of its labor force classified as agricultural, Colorado had less than one percent so classified. Colorado, on the other hand, listed over eighty-two percent of its labor force in mining, in contrast to less than 0.05 percent classified as miners in Utah. In 1880, Idaho showed over thirty percent in mining, compared to less than seven percent of Utah’s labor force in mining. The similarities between the industrial structures of Utah and the United States, and the differences between the industrial structures of Utah and the rest of the mountain states throughout the period of this study are clearly evident in the table. It is also interesting to note analogous similarities and differences in the demographic characteristics of the populations of the three regions. Utah’s sex
Table 6. Industrial Structure of Utah, U.S., and Other Mountain States, 1850-1900

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry</th>
<th>Utah</th>
<th>United States</th>
<th>Mountain States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>Agriculture</td>
<td>50.4 (62.3)</td>
<td>45.1 (53.8)</td>
<td>45.6 (63.2)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>0.4</td>
<td>1.5</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>15.6</td>
<td>16.2</td>
<td>3.3</td>
</tr>
<tr>
<td>1860</td>
<td>Agriculture</td>
<td>54.5 (63.4)</td>
<td>40.8 (47.1)</td>
<td>20.4 (29.6)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>*</td>
<td>1.9</td>
<td>42.2</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>13.8</td>
<td>17.3</td>
<td>3.8</td>
</tr>
<tr>
<td>1870</td>
<td>Agriculture</td>
<td>48.5 (56.6)</td>
<td>47.4 (51.5)</td>
<td>28.9 (34.6)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>2.7</td>
<td>1.3</td>
<td>22.6</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>10.5</td>
<td>14.7</td>
<td>8.3</td>
</tr>
<tr>
<td>1880</td>
<td>Agriculture</td>
<td>36.3 (45.0)</td>
<td>44.1 (49.5)</td>
<td>18.6 (27.8)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>6.6</td>
<td>1.5</td>
<td>21.3</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>12.3</td>
<td>15.6</td>
<td>8.9</td>
</tr>
<tr>
<td>1890</td>
<td>Agriculture</td>
<td>36.3 (36.3)</td>
<td>44.1 (41.4)</td>
<td>18.6 (31.1)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>5.7</td>
<td>1.8</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>11.5</td>
<td>17.0</td>
<td>9.8</td>
</tr>
<tr>
<td>1900</td>
<td>Agriculture</td>
<td>29.9 (39.9)</td>
<td>37.2 (39.8)</td>
<td>24.6 (33.5)</td>
</tr>
<tr>
<td></td>
<td>Extraction of Minerals</td>
<td>8.3</td>
<td>2.1</td>
<td>12.7</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>10.9</td>
<td>17.6</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Figures in parentheses include one-half of unspecified laborers.

* less than 0.05 percent.

**"Other Mountain States" include New Mexico in 1850, Colorado, Nevada, and New Mexico in 1860, and Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, and Wyoming for the remaining years.**

ratio was very similar to that of the United States and very different from that of neighboring states, as is shown in Table 7. Utah's population was younger, and other mountain states' population was older, on average, than that of the United States.

Income and Income Distribution in the Mormon Economy

A final interesting piece of evidence as to the impact of Mormon economic policies on the development of Utah's economy comes from an examination of Mormon Church economic records, from which it is possible to extract information on individual income. From those records, it is clear that real per capita income within the Mormon economy of Utah was rising between the 1860s and the 1890s. It is also evident that the distribution of income among Mormons showed the familiar inverted U-shape associated with the process of economic development.

Table 8 gives income per worker and income per capita of the Mormon population of the Great Basin based on a sample of individual income data ranging from 4,800 observations in 1855 to 25,700 observations in 1895. The sample comprises from 50 percent to 90 percent of all Mormon income-earners, depending on the year. The real income figures are based on two price indices, the first (YRT) utilizes a seventeen-commodity tithing price index, and the second (YRTW) uses the tithing price index linked with the U.S. wholesale price index after 1869. As can be seen, real income rises steadily from the time of the completion of the railroad until the depression of 1895. The Gini ratio shown in Table 8 is graphed in Figure 3. Notice that the gini ratio rises steadily from 1861 until 1880, then begins to decrease. The income and income distribution information, then, lends further support to the hypothesis that the Mormon economy of Utah was well down the path toward modern economic growth when Utah became a state.
Table 7. Selected Characteristics of Utah, Western, and U.S. Populations, 1850-1900

<table>
<thead>
<tr>
<th>Year</th>
<th>Characteristic</th>
<th>Sex Ratio (Males per 100 females)</th>
<th>Age Composition: Percent under 5</th>
<th>Age Composition: Percent under 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>Utah</td>
<td>113.3</td>
<td>19.1</td>
<td>41.4</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>280.9</td>
<td>8.4</td>
<td>22.9</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>104.3</td>
<td>15.1</td>
<td>41.5</td>
</tr>
<tr>
<td>1860</td>
<td>Utah</td>
<td>101.2</td>
<td>23.7</td>
<td>44.1</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>214.2</td>
<td>12.8</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>104.7</td>
<td>15.4</td>
<td>40.5</td>
</tr>
<tr>
<td>1870</td>
<td>Utah</td>
<td>103.4</td>
<td>19.2</td>
<td>48.2</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>159.8</td>
<td>12.9</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>102.2</td>
<td>14.3</td>
<td>39.2</td>
</tr>
<tr>
<td>1880</td>
<td>Utah</td>
<td>100.7</td>
<td>17.8</td>
<td>44.9</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>153.3</td>
<td>11.5</td>
<td>31.3</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>103.6</td>
<td>13.8</td>
<td>38.1</td>
</tr>
<tr>
<td>1890</td>
<td>Utah</td>
<td>113.4</td>
<td>14.8</td>
<td>41.0</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>141.9</td>
<td>10.1</td>
<td>28.8</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>105.0</td>
<td>12.2</td>
<td>35.5</td>
</tr>
<tr>
<td>1900</td>
<td>Utah</td>
<td>104.9</td>
<td>15.1</td>
<td>41.0</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>128.1</td>
<td>9.8</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>U.S.</td>
<td>104.4</td>
<td>12.1</td>
<td>34.4</td>
</tr>
</tbody>
</table>

Table 8. Gini Ratios, Income per Worker, and Income per Capita in the Great Basin, 1855-1895

<table>
<thead>
<tr>
<th>Year</th>
<th>Gini</th>
<th>Nominal</th>
<th>YRT&lt;sup&gt;a&lt;/sup&gt;</th>
<th>YRTW&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Nominal</th>
<th>YRT&lt;sup&gt;a&lt;/sup&gt;</th>
<th>YRTW&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1855</td>
<td>.4636</td>
<td>384</td>
<td>385</td>
<td>385</td>
<td>91</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>1857</td>
<td>.4122</td>
<td>504</td>
<td>507</td>
<td>507</td>
<td>112</td>
<td>113</td>
<td>113</td>
</tr>
<tr>
<td>1859</td>
<td>.6114</td>
<td>545</td>
<td>547</td>
<td>547</td>
<td>114</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>1861</td>
<td>.4782</td>
<td>537</td>
<td>544</td>
<td>544</td>
<td>112</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>1866</td>
<td>.5408</td>
<td>484</td>
<td>489</td>
<td>489</td>
<td>110</td>
<td>111</td>
<td>111</td>
</tr>
<tr>
<td>1870</td>
<td>.5595</td>
<td>376</td>
<td>422</td>
<td>480</td>
<td>93</td>
<td>105</td>
<td>119</td>
</tr>
<tr>
<td>1875</td>
<td>.5627</td>
<td>267</td>
<td>537</td>
<td>535</td>
<td>96</td>
<td>141</td>
<td>140</td>
</tr>
<tr>
<td>1880</td>
<td>.6054</td>
<td>374</td>
<td>667</td>
<td>644</td>
<td>104</td>
<td>186</td>
<td>179</td>
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<td>1885</td>
<td>.5996</td>
<td>367</td>
<td>795</td>
<td>744</td>
<td>109</td>
<td>236</td>
<td>221</td>
</tr>
<tr>
<td>1890</td>
<td>.5867</td>
<td>336</td>
<td>828</td>
<td>707</td>
<td>107</td>
<td>263</td>
<td>224</td>
</tr>
<tr>
<td>1895</td>
<td>.5322</td>
<td>232</td>
<td>827</td>
<td>561</td>
<td>72</td>
<td>257</td>
<td>175</td>
</tr>
</tbody>
</table>

<sup>a</sup>Tithing price index used has 1855-1857 = 100.

<sup>b</sup>Price index used is tithing price index 1855-1869 linked with U.S. wholesale price index 1870-1895.

Sources: General Economic Records (MSS.), Church Archives, Church of Jesus Christ of Latter-day Saints.

Israelsen [1981], table 4.
5. Conclusions

Utah’s economy showed substantial growth during the 1847-1896 period, with real per capita income increasing 2.8 times between settlement and statehood. Between the completion of the transcontinental railroad (1869) and statehood, real per capita income increased 2.5 times. This rapid growth was accomplished by a diversification of the territory’s industrial structure in response to the demands of physical survival before 1869, and in response to the demands for cultural survival after 1869. With little or no access to outside capital and with practically no cash or convertible currency, the diversification which occurred within the majority Mormon sector was internally financed through mobilization and redistribution of tithing funds utilizing a system of commodity money, scrip, and book credit. The policy of self-sufficiency which drove the diversification led to an unusual dual economy in the territory in which the “traditional” Mormon sector developed a broad economic base which more closely resembled that of the United States than did the “modern” sector’s mining/trading base. The policies of the Mormon church, though
designed to prevent or retard assimilation into the larger U.S. economy, speeded the transition from a subsistence economy based on irrigated agriculture to a modern, diversified economy experiencing rapid economic growth, and allowed Utah Territory to escape the long period of economic instability and colonialism experienced by surrounding states in the nineteenth century.
Endnotes

1. For a discussion of the "colonial" period in Utah and other western states, see Arrington [1963] and Arrington and Alexander [1974].
2. Doctrine and Covenants 29:34.
3. The Evening and the Morning Star I (September 1832), 2. For a discussion of the relationship between Mormon theology and economics, see Arrington [1961] and [1958], chapter 1.
4. For more detailed information, see Arrington [1953].
5. See Arrington [1958], chapters 4-6 for a discussion of Mormon economic policy during this period; also, Arrington, et al. [1976], chapter 4.
8. Ibid., 48-57.
9. Ibid., 57-62.
10. Ibid., chapters 5 and 6; Arrington [1958], chapter 10.
11. Ibid., 191-192.
12. Ibid., 72, 144-145, 312-313.
13. Ibid., 72.
19. Ibid., 154-155.
22. Arrington [1956a]. High prices in mining camps in Montana, Idaho, and Nevada encouraged the outflow of food from Utah. In 1864, flour sold at $125 per hundred in Montana, compared to the "customary" pioneer price of $6 per hundred. Ibid., n.32, 110.
23. The Utah Produce Company provided an export monopoly which would establish price control through regulation of the domestic surplus, and would earn profits through selling to outsiders at remunerative prices. Brigham Young claimed the Company saved the Territory two or three hundred thousand dollars for two or three years. Arrington [1956a], 111-113.
24. For a discussion of the economic role of the tithing office and storehouse, see Arrington [1954], [1958b], 133-145. "Church farms" were located in various parts of the region to handle the tithing livestock. A study of the role of tithing prices in economic stabilization is found in Israelsen [1977].
27. This method of stabilization relied on arbitrage between markets, likely to happen if relative prices differ between two markets. For example, if the market price of calves was high relative to the tithing price, and the tithing price of wheat was high relative to the market price, it would profit a tithing-payer to sell "tithing calves" in the market, buy wheat, and use some of the wheat to pay the tithing due for the calves. That this policy was effective in maintaining adequate stocks of wheat in the tithing offices is evident by the fact that the amount of tithing paid in wheat greatly exceeded the wheat tithing obligation. Israelsen
[1977], 78; n. 17, p. 86; Arrington [1954], 39.

28. Israelsen [1977].


31. Arrington [1951], 146-147.

32. Arrington [1958], n. 41, p. 473.

33. *The Deseret Weekly News*, October 14, 1868; Brigham Young sermon October 8, 1868, *Journal of Discourses* 12:301. In 1865-1866, church leaders had conducted a boycott against merchants suspected of being enemies of the church. Arrington [1958], 248; Arrington et al. [1976], 85-87. As early as July 28, 1847, Brigham Young had stated: “We do not intend to have any trade or commerce with the gentile world, for so long as we buy of them we are in a degree dependent on them.” “Norton Jacobs Record,” 28 July 1847; cited in England [1980], 161. One of the effects of the boycott of 1865-1866 was to increase the profits of Mormon merchants, who made in some cases 500 percent profit on goods sold, much to the displeasure of Brigham Young. Brigham Young sermon, June and July 1865, *Journal of Discourses* 11:114.

34. *Utah Economic and Business Review*, no. 1 (December 1947), 13. Census figures are traditionally lower than the actual population. Wahlquist [1978] has estimated the population of Utah Territory for years between 1847 and 1870 based on immigration figures and a 2.9 percent growth rate. His estimates are 47,046 for 1860 and 97,229 for 1870 (table 2, p.115).


36. Arrington [1963], table IIIA, 41.


42. *Ibid.*, 206-211.

43. The leaders of the “New Movement” or “Godbeite” heresy of 1869 included William Godbe, E. L. T. Harrison, Edward W. Tullidge, W. H. Shearman, and Eli B. Kelsey. They advocated cooperation with the gentiles, elimination of social and economic insularity, and development of mining and “foreign trade.” For their open criticism of established church policy, the “Godbeites” were excommunicated from the Mormon church.

44. Apostle Erastus Snow summarized this view: “If the mines must be worked, it is better for the saints to work them than for others to do it.” *Journal History of the Church of Jesus Christ of Latter-day Saints*, June 5, 1870.

45. Arrington [1958], 243. Brigham Young advised church members: “We say to the Latter-day Saints, work for these capitalists, and work honestly and faithfully, and they will pay you faithfully. If they have means and are determined to risk it in opening mines, you work for them by the day. Haul their ores, build their furnaces, and take your pay for it, and enter your lands, build houses, improve your farms, buy your stock, and make yourselves better off . . . .” Brigham Young sermon, April 9, 1871, *Journal of Discourses* 14:85.

46. Arrington [1958], 306-307. Brigham Young claimed, in April 1869, that the cooperative system had already reduced prices of retail goods in Utah twenty to thirty percent. Brigham Young sermon, April 6, 1869, *Journal of Discourses* 12:312. Walker Brothers, one of the
leading gentile firms, claimed that their business declined from $60,000 to $5,000 a month as a result of the boycott. Olsen [1935], 146; cited in Arrington, et al. [1976], 97. Tax lists of the period cast doubt on the contention of non-Mormon merchants that their sales declined markedly, at least at the wholesale level.

47. Israelsen [1978], 543-545. For a history of the United Order, see Arrington, et al. [1976], chapters 6-14.

48. Israelsen [1978], appendix, 560-562. For a discussion of the causes of failure of the United Order, see ibid, 546-559.

49. The United Order experience, limited though it was, still occupies an important place in the Mormon collective consciousness.

50. Brigham Young estimated that $300,000 were expended by Utahns on imported goods in 1852. Sugar consumption alone was estimated at three hundred tons per year in the early 1850s. Most of this sugar, worth $240,000 at prevailing prices, was imported, with the remainder being obtained from such inferior sources as parsnips, carrots, beets, watermelons, and cornstalks. Arrington [1958], 116. Tobacco was another particularly expensive import. By 1861, according to President Young, between $60,000 and $80,000 in gold and silver was leaving the territory annually to pay for that product. Desert News, October 1, 1862. In 1863, Young revised the estimate to $100,000. Brigham Young sermon, June 7, 1863, Journal of Discourses 10:202. Brigham Young, in 1865, estimated that $100,000 per year was being spent on tobacco in the late 1840s and early 1850s, and that considerably more than that amount was being spent by the mid-1860s. Brigham Young sermon, October 9, 1865, Journal of Discourses 11:140.

51. Arrington [1958], 116-120. For a history of the sugar beet industry in the Great Basin, see Arrington [1966].

52. Arrington [1958], 216-223. An award-winning history of the Cotton Mission has been written by Arrington [1956b].

53. Cotton acreage and production reached its peak in 1862, with 100,000 pounds produced, and declined markedly thereafter. Lack of a local factory hampered the Cotton Mission early, as three-fourths of the 1862 crop had to be freighted east. Later, Indian troubles, crickets, and other problems curtailed cotton production. Arrington [1958], 218, 221.

54. Tithing offices in Toquerville, St. George, and elsewhere became extensively involved in the production of wine from grapes turned in as tithing. John C. Naegle was producing as much as 3,000 gallons of high-quality wines and brandies per year, trading them in Salt Lake City for much-needed wheat and flour to distribute to the cotton missionaries. Because of the temptation to consume the product locally, church leaders urged that the grape vines be pulled out, and by the turn of the century, the grape industry had effectively been eliminated. Grain-sorghum molasses, however, became a staple export, and was sold widely in Utah, Nevada, Idaho, and Montana. Ibid, 222.


56. Arrington [1958], 227, 310.

In May 1895, the Utah Silk Association presented a silk gown to Susan B. Anthony when she presided at the Intermountain Woman Suffrage Convention in Salt Lake City. Anderson [1966], 372.

58. Arrington et al. [1976], 54.
59. Ibid., 55-56.

60. Apostle Erastus Snow stressed this view to fellow Mormons in 1868: “The subject of developing the mineral resources of our Territory is one of great importance. Iron, copper, coal, lead, zinc and tin abound in our mountain home, and the development of these minerals is of far more importance to the welfare and prosperity of a nation, than the development of mines containing the precious metals; for the latter are limited in their use, while the grosser metals are those that, in their uses, enter into all the ramifications of life.” Erastus Snow sermon, April 8, 1868, Journal of Discourses 12:212.

61. Technical difficulties with furnaces and problems with coal, Indians, floods, drouights, and food supplies plagued the early history of the Iron Mission, forcing its closure in 1858. However, the completion of the transcontinental railroad sparked renewed interest in the Iron Mountain, and church-sponsored iron production began again in 1870. Arrington [1958], 122-127, 315-316.

62. Ibid., 126, 223, 346-348; Arrington, et al. [1976], 209. Even after the Union Pacific Railroad began shipping superior Wyoming coal to Utah in the 1870s, hundreds of men continued to find employment in the Coalville mines, particularly during depressions and when it was felt that Union Pacific coal agents were exploiting their monopoly power by charging unreasonable rates.

63. Arrington [1958], 127-129. The Las Vegas Springs lead ore yielded only twenty to thirty percent lead and contained many impurities, including silver. Water was twelve miles away, provisions and fodder had to be freighted 230 miles, and there were Indian troubles. This operation was abandoned after the winter of 1857. The Beaver County operation was more successful.

64. Ibid., 109-110, 222-223.
65. Ibid., 114-120.
66. Ibid., 218.
67. Ibid., 121-122, 219-220, n. 103, p. 452. Some machinery was sent west as early as 1859.
68. Ibid., 219-220, 318-319.
69. Ibid., 308.
70. Ibid., 309.
71 Ibid.
72. Ibid., 317.
73. Ibid., 316.
74. Ibid., 316-317.
75. Ibid., 261-263.
76. Ibid., 267.
77. Ibid., 265-270.
78. Ibid., 279-276.
79. Ibid., 277-282.
80. Ibid., 283-189.
81. Ibid., 275-276.
82. Ibid., 290-291.
83. Ibid., 228-231.
84. Ibid., 128.
85. The constant (1855-1857) dollar amounts were calculated from the current dollar amounts by using a 17-commodity tithing price index. Since the large majority of tithing was paid in kind, the constant dollar amount shows the purchasing power of the current tithing in the prices that existed in 1855-1857.
86. Tithing prices were compiled from tithing price lists sent out from the Presiding Bishop’s Office each year to ecclesiastical leaders throughout the Great Basin. These lists are found in the General Economic Records (mss.), Church Archives, The Church of Jesus Christ of Latter-day Saints.
88. Table 6 was calculated from Arrington [1963], tables I-VI.
89. Ibid.
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