



TWELFTH FEDERAL RESERVE DISTRICT

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RETAIL SALES AT HIGH LEVEL

SALES of retail stores in the nation, and probably in the Twelfth District, reached an all-time high during the 1954 Christmas season and were well maintained in January. For the country as a whole, total retail sales rose approximately 4 percent in November and about 9 percent in December relative to the corresponding months of 1953. Although retail trade declined somewhat in January on a seasonally adjusted basis, it was about 10 percent above January of 1954.¹ In November and January some major types of retail stores had increases in sales in the country as a whole compared with a year ago and others had decreases, whereas the dollar volume at all types of outlets rose during December. Available data suggest that District retailers had increases in total sales generally paralleling those in the nation as a whole.

Much of the fluctuation in total retail sales during this three-month period reflects changes in automobile sales. Despite earlier introduction of new models by some companies in the latter part of 1954, automobile sales in the nation dropped in November compared with the same month of 1953. However, automotive stores rang up sizable gains in dollar sales during both December (24 percent) and January (29 percent) compared with December 1953 and January 1954, the largest gains among all kinds of retail businesses.

Furniture and appliance store sales moved in the same direction though not at the same rate as automotive store sales during the winter months. During the Christmas season, furniture and appliance store sales rose 3 percent in November and increased 3 percent in December relative to the same months of 1953. These stores continued to show a moderate rise in sales during January 1955 compared with a year ago. Food outlets showed the largest year-to-year increases in dollar sales among nondurable goods stores during the recent holiday months—a trend that did not continue into January. Apparel stores also registered sizable gains during the Christmas shopping months. In the country as a whole, apparel stores reported sales increases of 6 percent in both November and December compared with the corresponding months of 1953. However, an advance esti-

mate shows a moderate decline in apparel sales in January relative to the same month of 1954.

District sales parallel national trend

Retail stores in the Twelfth District seem to have fared as well as those in the country as a whole during the past Christmas season. Estimates suggest substantial increases in sales by automobile dealers during both November and December. In California—the largest retail market in the District—new passenger car sales in December 1954 were about 72 percent higher than in December 1953.

The seasonally adjusted District department store sales index rose 2 percent in November and 9 percent in December above the figures for the same months of 1953. Although this region's increase paralleled movements in the department store index for the country as a whole, the sources of strength appear to have come from different departments. Except for sales by radio, phonograph, and television departments, in which both the regional and national changes seem to have been about the same, much of the increased buying from District department stores appeared to be concentrated in soft goods whereas the increases nationally were largely the result of increased sales from hard goods departments. This is particularly illustrated by major household appliance departments, for which the department stores in the country as a whole registered sizable gains compared with the 1953 Christmas season, while a similar time-comparison indicates that department stores located in this District suffered substantial drops.

The breakdown of department store sales by department together with estimates of apparel store sales sug-

¹ Unless otherwise noted, comparisons of monthly and weekly sales between different years made throughout this article are not adjusted for trading day differences.

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gests that Christmas buying from this District's department stores may also be representative of the holiday trend among specialty shops selling similar kinds of goods. Apparel stores in the District reporting to this bank showed increased sales during both November (3 percent) and December (6 percent) compared with year-ago figures for the same months. Also, these changes in total District department and apparel store series appear to be fairly representative of what occurred in the major metropolitan areas of this region. Both these types of retail outlets showed gains in all the metropolitan areas and centers of the District during the past December relative to December 1953.

Christmas shopping marked by late buying

The sales data suggest that consumers apparently postponed much of their holiday shopping to the final weeks before Christmas. Weekly department store sales, expressed as a percentage of the corresponding week of the previous year, showed both positive and negative changes during November. In December, however, continued and progressive increases occurred until Christmas. During the last shopping week before Christmas Day—when the change was greatest—department store sales were up 12 percent in the District and 16 percent in the nation compared with the same week in 1953. To some degree, however, these increases may be due to the fact that the week ending December 25, 1954 contained

one more pre-Christmas shopping day than the Christmas week ending December 26, 1953. The last minute shopping rush also appeared to be general throughout all the metropolitan centers in the District. A similar time-comparison for the final holiday shopping week shows large increases in department store sales in San Francisco (18 percent), Seattle (16 percent), and Los Angeles (9 percent) relative to the same week in 1953.

Post Christmas department store sales remain high in District

Department store sales during the final week of December rose substantially in the District but showed a moderate decline in the country as a whole compared with the same week of 1953. The District rise, perhaps reflecting earlier year-end inventory sales by some department stores, represents increases in all metropolitan areas in this region except the San Francisco-Oakland and San Diego areas. Westside Los Angeles department store sales showed the largest gains during this period, 19 percent compared with the corresponding week in 1953.

This strong trend in department store sales in the District continued through January. Preliminary estimates indicate that department stores in the country as a whole as well as in the District showed large percentage increases in sales during January relative to the same month in 1954.

THE UNITED STATES-PHILIPPINES TRADE AGREEMENT

ON December 15, 1954 successful negotiations to revise the United States-Philippines Trade Agreement of 1946 were concluded. The recommendations, which must now be approved by the Congresses of both countries, were the culmination of three months of active negotiations which in turn had been preceded by several years of hearings and informal negotiations both here and in the Philippines.

Importance of Philippine trade to Twelfth District

The provisions of the recommended Agreement, assuming that it will be ratified by the two countries, will be of major importance to importers, exporters, and others in the Twelfth Federal Reserve District. With the single exception of Japan, the Philippines is the Pacific Coast's most important trading partner in the Far East, and the Pacific Coast accounts for a significant part of the total value of the nation's trade with that country. For example, in 1953, the most recent year for which complete data are available, Pacific Coast trade with the Philippines totaled more than \$180 million, representing almost 30 percent of total United States-Philippine trade.

The Pacific Coast accounts, moreover, for an even larger share of total United States-Philippine trade in certain commodities. On the import side, copra is by far the most important. In 1953 Pacific Coast imports of

copra amounted to \$42 million and constituted 73 percent of United States copra imports from the Philippines. In addition there was slightly less than \$6 million in animal feeds, largely copra meal, imported by the District, accounting for 95 percent of such United States imports. Other important District imports from the Philippines in this same year were copper (ores, scrap, and alloys) valued at \$7 million (97 percent of United States imports from the Philippines), and lumber and lumber products—over \$5 million (63 percent of the United States total). On the other hand, the Pacific Coast share of other important Philippine products such as hemp (and other vegetable fibers) and sugar was much smaller, being only 18 percent and 1 percent, respectively.

On the export side, 83 percent of total United States exports of food products to the Philippines (\$44 million) were shipped from Pacific Coast ports in 1953. Most important were condensed and evaporated milk (\$13.4 million), canned fish (\$6.8 million), and wheat flour (\$7.4 million). District exports of \$25 million in machinery and vehicles amounted to 34 percent of total United States exports of this type; within this group exports of construction and mining machinery alone totaled over \$7 million (67 percent of United States shipments). Other exports to the Philippines in which the District accounted for a major share of the United States total

were: wood and paper products—50 percent (\$7.1 million), petroleum products—60 percent (\$3.1 million), and rubber products—40 percent (\$2.9 million).

Background for the recent negotiations

The above figures on Pacific Coast-Philippine trade indicate why foreign traders and other businesses in the District have watched the negotiation of the new Agreement with considerable interest. The recently concluded negotiations were undertaken as the result of an official request from the President of the Philippine Republic to the President of the United States on March 7, 1953. This note was followed on May 5, 1953 by a more specific request from the Philippine Government which listed three concrete proposals for revision of the Agreement based on a study by a 15-man committee appointed by the Philippine President. These three proposals were:

1. "That the present trade provisions of the Executive Agreement be replaced by another providing for a limited and reciprocal free trade between the Philippines and the United States whereby full duties will be imposed on all imports, both ways, except for those commodities that, by agreement of the two governments, are to be included in the duty-free lists and in such volume and/or amount as may be agreed upon.
2. "That the provisions of the present Executive Agreement requiring the Philippine Government to obtain the consent of the President of the United States before it could change the par value of the peso or restrict transactions in foreign exchange be eliminated, and that the right of the Republic of the Philippines to control and administer its currency, subject only to its commitment to the International Monetary Fund, be recognized.
3. "That the provisions in the present Executive Agreement governing immigration, and the rights and privileges extended to citizens in the field of natural resources be made reciprocal as between citizens of both countries."

The first proposal, quoted above, was supplemented on September 16, 1953 by the submission of a proposed list of commodities to be included in the free lists. Just a year later, in September 1954, the negotiators from the two countries began their deliberations in Washington. Their work in the form of a document officially entitled "Final Act of Negotiations Relative to Revision of the 1946 Trade Agreement between the United States of America and the Republic of the Philippines," was submitted to the two Governments on December 15, 1954. The remainder of this article will be devoted to a summary of the more important recommendations contained in this document.

Generally speaking, the proposed changes in the Agreement can be placed in two broad categories: First, those which would constitute a fuller recognition of Philippine sovereignty and grant them greater equality in their trade relations with the United States; and second, those which would constitute actual changes in the trade policies of the two countries.

From the standpoint of their effect on the flow of trade between the two countries, most of the important changes fall in the second category. To the eight-year-old Philippine Republic, however, those changes of the first category, which emphasize her position as an independent trading nation, are understandably of considerable importance.

Before considering those revisions which fall into the first category it might be well to recall the circumstances under which the original Agreement between the two countries came into effect. The date of this Agreement was July 4, 1946 and it coincided with the granting of full independence to the Philippines. This date, shortly following the end of World War II, found the Philippines with most of its physical capital either demolished or seriously impaired. Particularly heavy damage had been inflicted on the export industries. Although the population had increased approximately 25 percent above the prewar level, food production was far below prewar. As a consequence, it was anticipated that the early years of the new Philippine Republic would be exceedingly difficult, with large deficits in its foreign trade which would have to be covered primarily by United States aid. Nor was it to be expected that the war damage could or should be repaired solely through Philippine resources. The Philippine Rehabilitation Act was enacted by the United States Congress shortly before political sovereignty was granted, and by the time the program was completed in 1951 some \$600 million had been expended to repair the war damage and some \$200 million in other aid had been extended. Today, while the Philippines still is faced with serious economic problems, the difficulties are of a much lesser nature than those which the fledgling nation faced in 1946. In the atmosphere in which the original trade agreement was negotiated it is not surprising that certain limitations on the independent actions of the Philippine Government were included, nor should it be surprising that the Philippines has requested that such limitations be reviewed and revised at this time. A particularly clear instance has been the question of control of the Philippine currency.

Changes which Relate to Philippine Sovereignty and Equality of Rights

Control of the Philippine currency

Article V of the Trade Agreement of 1946 provided that the value of the Philippine peso (2 pesos to the dollar) could not be changed, convertibility of the peso into dollars could not be suspended, nor could any restrictions be placed on the transfer of funds from the Philippines to the United States, except by agreement with the President of the United States. The revision of the Agreement deletes this article entirely and thus turns over to the Philippine Government control over its own currency.

The question of control of the Philippine currency was one of the three points mentioned in the official request for a revision of the Agreement forwarded to the United States on May 5, 1953 by the Philippine Government, as has been indicated earlier. During the negotiations which followed, this issue assumed considerable importance. In brief, without any effort to evaluate their relative merits, the two positions on the issue were as follows. The Philippine position was simply that any

sovereign nation should have the right to control its own currency. Over and above this, it was pointed out that, subsequent to the signing of the original Agreement, the Philippine Republic had become a member of the International Monetary Fund and as such had certain commitments for consultation with, and approval of, the Fund in matters of exchange control and changes in the value of its currency which duplicated and made unnecessary the requirement that the approval of the President of the United States must also be obtained. Those opposed to the elimination of this provision of the Agreement stated that there was a critical need for foreign investment to develop the Philippine economy and that the safeguard of United States approval of changes in the value of the peso, or the imposition of exchange controls, should encourage this needed investment, particularly from the United States.

The provisions of Article V have been invoked five times since the Agreement came into effect, and the Philippines has been required to obtain the approval of the President of the United States for legislation affecting the convertibility or value of the peso. The first of these instances occurred on December 9, 1949 when the Philippine Government instituted controls over foreign exchange transactions to stem a serious flight of capital, protect the stability of the peso, and to curb heavy expenditures for imports. The second instance occurred on March 28, 1951 when a 17 percent exchange tax was levied on most sales of foreign exchange for a two-year period. This exchange tax constituted a partial devaluation of the peso by setting up dual rates of exchange, a matter which will be discussed at a later point. United States approval for extension of this tax and amendments to the law has been subsequently sought and obtained in 1952, 1953, and 1954.

The allocation of quotas

The next revision providing for greater self-determination by the Philippine Republic deals with the matter of allocating quotas placed on exports to the United States. Under the original Agreement the method of allocating quotas to producers in the Philippines was set out in considerable detail on a historical basis. Under this system they were required to allocate to particular firms the same share of the business which these firms enjoyed in some historical period. In most instances this was the prewar year 1940, but in some cases it was the twelve-month period preceding Philippine independence, and in one case ("direct-consumption sugar") it was an average for the years 1931-1933. Under the proposed Agreement no method of allocation is specified, leaving this to the determination of the Philippine Government.

Reciprocal authority to impose new quotas

Contained in the original Agreement was a provision, usually referred to as an "escape clause" in trade agreements, whereby the United States could place additional quantitative restrictions (quotas) on Philippine imports

if "The President of the United States, after investigation, finds and proclaims that such Philippine articles are coming, or are likely to come, into substantial competition with like articles the product of the United States." Similar authority was not granted the Philippine Government. Under the proposed revision, however, both governments would have the authority to impose additional quotas. The language of the provision has also been changed somewhat and in place of the rather vague term "substantial competition" the new clause specifies that quotas can be imposed if imports of a particular article "cause or threaten serious injury to domestic producers of like or directly competitive articles."

The proposed revision of the Agreement also includes an additional provision for the imposition of additional quotas by either country if the President of the country "finds that such action is necessary to forestall the imminent threat of, or is necessary to stop, a serious decline in its monetary reserves, or, in the event that its monetary reserves are very low, to achieve a reasonable rate of increase in its reserves."

Consultation between the two countries is also provided for prior to the imposition of new quotas either under the "escape clause" provision or for balance of payments reasons. The amendment, however, makes it clear that this right of consultation does not mean that the consent of the other country is required.

Immigration and reciprocal rights to engage in business activities

The proposed Agreement eliminates those provisions concerned with immigration which have since become obsolete. With regard to the free movement of traders and businessmen between the two countries, the revised Agreement provides that before approval of the Agreement, the Republic of the Philippines shall take the necessary legislative and executive actions to implement legislation already enacted by the United States Congress. The legislation referred to is Public Law 419 of the 83rd Congress which was approved on June 18, 1954. This law provided that if reciprocal rights are extended United States nationals, a Philippine national and the spouse and children of the national, if otherwise eligible for a visa and if otherwise admissible into the United States under the Immigration and Nationality Act, will be admissible as nonimmigrants. Under this classification they would be free to enter the United States for the following purposes:

- "(i) solely to carry on substantial trade, principally between the United States and the foreign state of which he is a national; or
- "(ii) solely to develop and direct the operations of an enterprise in which he has invested, or of an enterprise in which he is actively in the process of investing, a substantial amount of capital;"¹

On the subject of the types of business activities which nationals of the two countries can pursue in the other country, the revision would make a significant change.

¹ Immigration and Nationality Act (66 Stat. 163), section 101 (a) (15) (E).

Under the 1946 Agreement, citizens of the United States in effect were given a parity of rights with Philippine nationals in the types of businesses in which they could engage in the Philippines. This was accomplished in part by a specific section which provided that, if open to any person, citizens of the United States, or any enterprise controlled directly by them, can engage in the disposition, exploitation, development, and utilization of all agricultural, timber, and mineral lands of the public domain, all forces and sources of potential energy, and other natural resources and the operation of public utilities. In addition, there was a general provision that if the Philippine Government discriminated in any way against United States citizens, or their business enterprises, the United States could suspend all or any part of the Agreement and upon six-months notification terminate the Agreement.

Under the revised Agreement, the rights of United States citizens with regard to the public domain, natural resources, and public utilities in the Philippines would remain. Comparable rights, however, would be extended to Philippine citizens to engage in similar activities in the United States. The general provision for nondiscrimination against United States citizens is deleted and a new article added which provides that neither Government will discriminate in any manner against the citizens of the other country, or their business enterprises. Furthermore, in the event that any new limitations are imposed by either country on the business activities of aliens, they shall not apply to enterprises of citizens of the other country which are in operation at the time the limitation is imposed. These parity rights of citizens of each of the two countries in the other country, however, would be subject to four limitations:

(1) With respect to natural resources subject to the control or regulations of our Federal Government, citizens of the Philippines may exercise their rights only through the medium of a corporation organized under the laws of the United States or one of the States. In the case of United States citizens with respect to natural resources in the public domain in the Philippines, they must operate through the medium of a corporation organized under Philippine laws and at least 60 percent of the stock must be owned or controlled by United States citizens.

(2) The above limitation does not apply to the rights of citizens of the United States to acquire or own private agricultural lands in the Philippines or of citizens of the Philippines to acquire and own land in the United States which is subject to the jurisdiction of the United States. (The question of land under the jurisdiction of the various States of the United States is covered under item (4) below.) However, each country reserves the right to dispose of public lands in small quantities to its own citizens (or, in the case of the United States, aliens who have declared their intention to become citizens) who are actual settlers (or for other use, in the case of the United States) on especially favorable terms. The United

States also reserves the right to limit the extent to which aliens may own land in its outlying territories and possessions, but the Philippines need only grant reciprocal rights to United States nationals who are residents of territories and possessions.

(3) Both countries reserve the right to limit the extent to which aliens may engage in fishing, enterprises which furnish communications services, and air or water transportation.

(4) The United States reserves the rights of the several States of the United States to limit the extent to which Philippine citizens, corporations, and associations may engage in any business activity. At the same time, however, the Philippines reserves the right to deny any rights to engage in business activities to citizens of States which deny like rights to Philippine citizens.

Other than provisions for exceptions which are granted to both countries for reasons of national security, and a procedure whereby either country can terminate the Agreement under proper notification, this concludes the list of changes in the Agreement which have as their primary effect a greater recognition of Philippine sovereignty and grant both countries equal rights under the provisions.

Changes in Trade Policy

Tariffs

The original Agreement provided for duty-free entry of articles of the United States and the Philippine Republic into the other country until July 3, 1954. After that date the ordinary customs duties of the two countries were to be applied to imports from the other country on a graduated scale starting at 5 percent of the total duty and increasing approximately 5 percent a year and reaching 100 percent in 1973.

In accordance with subsequent legislation passed by the United States and the Philippine Republic, duty-free status was extended to December 31, 1955. After that date the ordinary duties will be applied at a graduated rate but under the revised Agreement the customs duties of the two countries would not increase at the same rate. An acceleration of the application of Philippine duties on imports from the United States and a deceleration of United States duties on imports from the Philippines would be substituted for the old schedule. The revised schedule is summarized below:

Percentage of Ordinary Customs Duty to be Applied Against Imports From the Other Country

(All dates are inclusive)

	Percent of Philippine duty	Percent of United States duty
January 1, 1956-December 31, 1958..	25	5
January 1, 1959-December 31, 1961..	50	10
January 1, 1962-December 31, 1964..	75	20
January 1, 1965-December 31, 1967..	90	40
January 1, 1968-December 31, 1970..	90	60
January 1, 1971-December 31, 1973..	90	80
January 1, 1974-July 3, 1974.....	100	100

Special import tax in lieu of tax on sales of foreign exchange

On March 28, 1951 a 17 percent exchange tax was levied by the Philippine Government on sales of foreign exchange. This tax was imposed with the consent of the United States and in fact followed the recommendations of the 1950 United States Economic Survey Mission to the Philippines (the Bell Report). The effect of this tax was to establish two rates of exchange, one for the conversion of export earnings into pesos at the rate of 2 pesos to one dollar, and the second for the purchase of dollars for the payment of imports at the rate of 2.34 pesos to the dollar. By thus making imports relatively more expensive it was hoped that the demand for imports could be reduced, thus alleviating to some extent the Philippine balance of payments problem, which was particularly acute at that time. The tax also proved to be an important source of revenue to the Philippine Government.

This foreign exchange tax was originally imposed for a two-year period only and thus was intended as a temporary measure to tide the Philippines through a difficult period. The tax, however, was subsequently extended and is still in effect. The tax applies to all purchases of foreign exchange with the exception of those made for the purpose of effecting Government payments and payments for imports of machinery and raw materials for new and necessary industries, certain basic foodstuffs and fertilizers, and a few specified payments for invisibles.

Under the revised Agreement a special import tax would be levied in lieu of the present tax on the sale of foreign exchange. The proposed new tax would apply to any article or product imported irrespective of its source and would be applied in a nondiscriminatory manner. The new tax thus differs from the foreign exchange tax in that it would apply only to commodity imports and would not apply to invisibles. This means that such items as payments for services and the remittance of earnings would not be subject to the tax.

The new tax is to be set at a rate no higher than the present exchange tax of 17 percent and it is to be reduced by 10 percent of the tax each year beginning December 31, 1956. Thus it would be eliminated by January 1, 1966. There is, however, an important exception provided in the progressive reduction of the tax. If in any year the total revenue from Philippine customs duties and from this special import tax on goods coming from the United States is less than the proceeds from the exchange tax on United States goods for the year 1955, no reduction would be required in the special import tax for the succeeding year. Furthermore, if it is necessary in order to restore revenues to the 1955 level, the tax could be increased in the succeeding year by any amount considered necessary up to the original amount.

The purpose of this special import tax appears to be to eliminate the dual exchange system that resulted from

the exchange tax which, while it was intended to be a temporary measure, has proven difficult for the Philippine Government to dispense with, particularly because the revenue obtained has alleviated somewhat its budgetary difficulties. While the intent is that the new tax would be gradually eliminated, the Philippine Government would not be deprived of its revenue, at least at the 1955 level. Eventual elimination of the special import tax, therefore, would be contingent upon an increasing volume of commodity imports from the United States and additional revenues received as the percentage of ordinary customs duties assessed against United States goods increased.

Export taxes

The revision of the Agreement would eliminate all prohibitions on the imposition of export taxes. Under the original provisions neither the United States nor the Philippines could impose or collect export taxes on articles to be exported to the other country.

Quotas

Under the 1946 Agreement absolute quotas were established on the quantities of certain Philippine commodities which could be admitted into the United States. These quotas were applied in two different ways. In the case of raw sugar, refined sugar, cordage, and rice, the absolute quotas were to remain in effect for the entire life of the Agreement but were to be subject to the same increasing percentages of ordinary customs duties that were applicable to other Philippine commodities imported by the United States. A different method of applying quotas, however, was used in the case of the remaining Philippine products which were subject to quotas. These other products were: cigars, scrap tobacco and stemmed and unstemmed filler tobacco, coconut oil, and buttons of pearl and shell. While absolute quotas were also set on these products, they were not subject to an increasing schedule of duties but instead the duty-free portions of the quotas were to be reduced by 5 percent each year beginning in 1955 with the result that the duty-free portion would be eliminated by January 1, 1974.

In the proposed revision of the Agreement a number of significant changes affecting quotas would be made. They are summarized below.

- (1) Rice is to be eliminated from the quota list.
- (2) The same absolute quotas remain on raw sugar, refined sugar, and cordage (952 thousand short tons, 56 thousand short tons, and 6 million pounds, respectively) but they will be subject to the new decelerated schedule of customs duties described earlier in this article. In the case of sugar a provision is also included which permits the Congress of the United States to increase the quota allocated to the Philippines in the future, if it is so desired.
- (3) In the case of the remaining products on the quota list (cigars, tobacco, coconut oil, and buttons) absolute

quotas are eliminated and only diminishing duty-free quotas applied. This means that there is no absolute limit on the amounts of these products which may be exported to the United States. Any shipments in excess of the duty-free quotas, however, will be subject to 100 percent of the ordinary United States customs duty applicable to like products and they will not share the benefits of the graduated schedule of duties elsewhere applicable. While the original duty-free quotas remain the same (200 mil-

lion cigars, 6.5 million pounds of tobacco, 200 thousand long tons of coconut oil, and 850 thousand gross of but-tens), the gradual scaling down of these quotas is to be decelerated. Instead of decreasing 5 percent a year beginning in 1955, the new schedule provides a 5 percent decrease every three years beginning in 1956, 10 percent for the three years beginning in 1962, 20 percent every three years beginning in 1965, ending up with no duty-free quotas after January 1, 1974.

ECONOMIC DEVELOPMENT OF THE INTERMOUNTAIN STATES OF THE TWELFTH FEDERAL RESERVE DISTRICT SINCE 1939

MORE than 50 percent of the area of the Twelfth Federal Reserve District is located in a region which the nation has shown a historic tendency to "skip over." Four of our seven District states—Arizona, Idaho, Nevada, and Utah—form a large proportion of that region known as the "Intermountain West." In the early years of western migration, the area bounded by the Rockies on the east and the Sierra Nevada and Cascades on the west represented primarily an obstacle which had to be negotiated before reaching the much more promising Pacific slope; and, despite dramatically large percentage rates of growth in recent years, this vast region between the great mountain ranges has remained largely undeveloped, while the three states to the west of the Sierra Nevada and the Cascades have been approaching economic maturity in the sense that a great industrial complex has been superimposed upon the agricultural and extractive base. The contrast in level of development between the Pacific Coast states and the Intermountain states is readily apparent to any observer. Still, there has been significant growth in the Intermountain area in the years since the depression of the 1930's. Given the magnitude of the area involved and the pressure of heavy population elsewhere on the resources of the nation, it may be well to examine the extent of development in the Intermountain section of this District over the period since World War II began.

Economic development is a very broad subject, amenable to a number of types of analysis. In this article the approach taken is that of description, that is, presentation of those facts which seem to give a rounded picture of the recent economic history of the region. To implement this approach, the article seeks to answer several broad questions: (1) What has happened to the general level of income in the region? (2) What general change has there been in the structure of types of economic activity? (3) What evidence is there that the region has been progressing in industrialization? (4) To what extent has economic growth made it possible for this sparsely populated area to support a larger population? (5) What circumstances indicate probable continuation of, or decline in, the rates of growth recently experienced?

Income

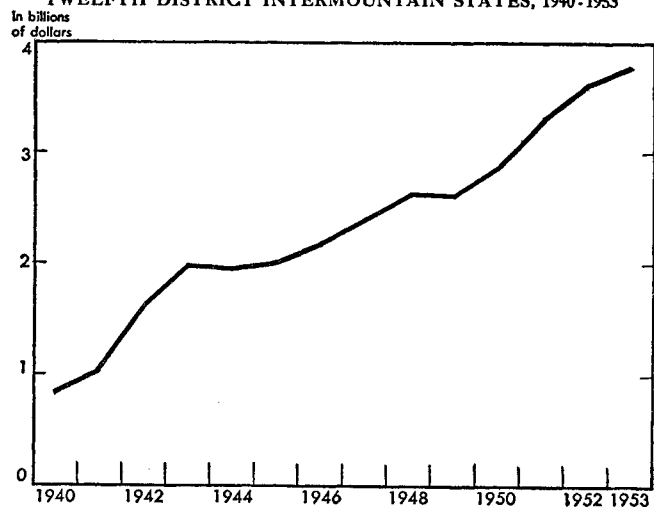
A good indication of the extent of the economic growth of the area can be gained from examination of income statistics. Between 1940 and 1953, total income payments in the Twelfth District Intermountain area increased from \$826 million to \$3,777 million—more than a four-fold increase (Chart 1). Of course, that period of years was one of rapidly advancing money income throughout the United States, and the western states in general could be expected to share in that growth. However, income in these four states advanced more rapidly than the national total, and consequently the rather small proportion of the nation's total income earned in the 4-state region¹ increased significantly. The rate of income growth was not uniform among the four states, Arizona's being the highest, Idaho's the lowest.

Individual income recipients have gained relative to those in the nation and the Pacific Coast

In large measure, this high rate of growth of income reflects price inflation and growth of population. The usual way to correct for the population factor is to com-

¹The Twelfth District Intermountain area will be occasionally referred to in this article as "the 4-state region."

CHART 1
TOTAL INCOME PAYMENTS
TWELFTH DISTRICT INTERMOUNTAIN STATES, 1940-1953



Source: United States Department of Commerce, Office of Business Economics, *Survey of Current Business*, August issues.

TABLE 1
PER CAPITA MONEY AND REAL INCOME PAYMENTS
TWELFTH DISTRICT STATES AND UNITED STATES
1940-1953

	1940		1953		Percent increase 1940-1953	
	Money income (1940 dollars)	Real income (1947-49 dollars)	Money income (1953 dollars)	Real income (1947-49 dollars)	Money income (current dollars)	Real income (1947-49 dollars)
Arizona	475	793	1,473	1,288	210	62
Idaho	444	741	1,411	1,233	218	66
Nevada	814	1,359	2,175	1,901	167	40
Utah	480	801	1,510	1,320	215	65
4-state region	490	818	1,540	1,346	214	64
Pacific Coast states	751	1,254	1,988	1,738	164	39
United States	575	960	1,709	1,494	197	56

Source: United States Department of Commerce, *Survey of Current Business*, August 1953. Real income figures are by Federal Reserve Bank of San Francisco, using the consumer price index of the Bureau of Labor Statistics as a "deflator."

pute per capita income. One can correct for the influence of inflation reasonably well by "deflating" the per capita income figures with the consumer price index, thus obtaining "real per capita income." The results of correcting per capita income for the influence of inflation are shown in Table 1. Despite popular notions of vast wealth in the West, this 4-state region is not an area of high real per capita income. Only Nevada, which enjoys the highest per capita income in the nation, has been consistently above the national average. In 1942 and 1943 the impact of war spending sent Utah's per capita income above the national average, but that position was not retained. Over the fourteen years being considered, real per capita income in the 4-state region increased 64 percent, but in 1953 it was still almost \$150 below the national average. However, the region gained relative to the other states of the Union and to the Pacific Coast states in particular. In 1940 the differential between real per capita income in the three coast states and in the Intermountain states was \$436; in 1953, it was \$392. In this respect, at least, the Intermountain states have not been "skipped over" in recent years.

Per capita income gain—a reflection of rise in urbanization and agricultural re-organization

This marked rise in real per capita income in the Intermountain area is the reflection of two very important types of change that have been taking place in that region: (1) all of the population growth has been concentrated in nonfarm areas, which depend on relatively

TABLE 2
POPULATION AND RATE OF GROWTH IN THE FOUR LARGEST URBAN PLACES IN ARIZONA, IDAHO, NEVADA, AND UTAH—1950

Urban place	1950 population	Percent increase 1940-1950	
Arizona	Phoenix	106,818	63.3
	Tucson	45,454	23.5
	Mesa	16,790	132.4
	Amphitheater (uninc.)	12,664	*
Idaho	Boise City	34,393	31.6
	Pocatello	26,131	44.1
	Idaho Falls	19,218	27.9
	Twin Falls	17,600	48.5
Nevada	Reno	32,497	52.4
	Las Vegas	24,624	192.4
	Sparks	8,203	54.2
	Elko	5,393	31.7
Utah	Salt Lake City	181,121	21.5
	Ogden	57,112	30.7
	Provo	28,937	60.1
	Logan	16,832	41.8

*Figures for 1940 not available.
Source: United States Department of Commerce, Bureau of the Census, *United States Census of Population, 1950*.

higher paying nonagricultural sources of income, and (2) individual incomes in agriculture have been rising at a very rapid rate.

Between the census years 1940 and 1950, the total population of the 4-state region increased by about 30 percent, while over the same decade rural farm population decreased by more than one-fifth. Thus, urbanization has made important progress. The impact of this shift in importance of urban life can be gauged somewhat by the examples of growth of urban places given in Table 2. The very high rates of population growth as shown in Table 2 would seem to indicate that the "boom town" of the Far West still exists. However, many of these more rapidly growing communities, unlike the old mining communities, are based upon new economic developments that serve larger communities and thus have a more stable economic base. As examples, Mesa and Amphitheatre in Arizona are suburban developments near the two main Arizona cities, Phoenix and Tucson. Mesa's great growth is a reflection of the rapidly expanding irrigation agriculture in that region, which is discussed later in this article. Another such example is the rapid growth of Provo, Utah, which is the result of the establishment in that area of the Twelfth District's largest steel producing community.

At the same time that population has been moving out of agriculture into pursuits offering higher average in-

TABLE 3
CASH RECEIPTS FROM FARMING
TWELFTH DISTRICT INTERMOUNTAIN STATES, 1939 AND 1953
(Value in thousands of dollars)

Area	Total		From crops		From livestock and products		From government payments	
	1939	1953	1939	1953	1939	1953	1939	1953
Arizona	60,963	416,435	28,744	315,621	26,828	99,502	5,391	1,312
Idaho	98,521	352,414	45,515	209,788	44,314	138,798	8,692	3,828
Nevada	13,054	42,861	1,996	6,363	10,825	36,239	233	259
Utah	46,868	156,428	12,697	41,610	31,317	112,269	2,872	2,549
4-state region	219,406	968,138	88,934	573,382	113,284	386,808	17,188	7,948

Source: United States Department of Agriculture, Bureau of Agricultural Economics, *Farm Income Situation*, September 10, 1954 and *Agricultural Statistics*, 1940.

TABLE 4
IRRIGATION ENTERPRISES
TWELFTH DISTRICT INTERMOUNTAIN STATES AND
UNITED STATES¹
(Acres irrigated)

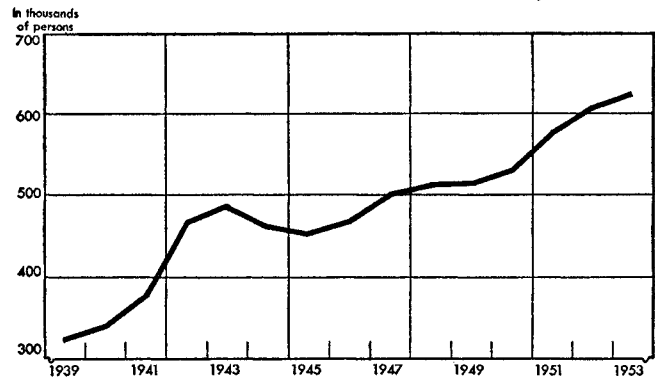
Area	1939		1949		Percent of total 1949	Percent change 1939-49
	1939	1949	1939	1949		
United States ¹	21,136,101	26,248,508	100.0	+24.2		
Arizona	653,263	979,014	3.7	+49.9		
Idaho	2,277,857	2,168,323	8.3	-4.8		
Nevada	739,863	722,896	2.8	-2.3		
Utah	1,176,116	1,166,659	4.4	-0.8		
4-state total	4,847,099	5,036,892	19.2	+3.9		

¹ Includes only 20 states in which significant acreage of irrigated agriculture is located.
Source: United States Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1952*, p. 557.

comes, the individual income differential between agriculture and other income sources has been diminishing rapidly. In 1940 the per capita real income (1947-49 dollars) in the agriculture of the Intermountain states was an estimated \$475. By 1950 it had risen more than two and one-half times to approximately \$1,250. Thus, persons in farming received real incomes virtually equal to the over-all regional average in 1950, compared with about 42 percent less than average in 1940. In some measure this gain has been the result of the strong position which prices of livestock have held over the period spanning World War II and the Korean war. However, the most striking gain is to be found in the production and sale of crops. As Table 3 shows, the value of cash receipts from marketing of farm crops rose from less than \$90 million in 1939 to \$573 million in 1953, an increase of more than 500 percent. As a consequence, the period since the start of World War II has seen farm crops come to be of greater economic importance than livestock in this region as a whole. The movement has been in the opposite direction in Utah and Nevada, however; in those two states livestock marketing grew in importance relative to crops during the 1939-53 period.

The movement toward greater reliance on sale of crops as a source of agricultural income has been strongest by far in Arizona where the growth of high-return irrigation agriculture in recent years has been exceedingly rapid. In the decade 1939-49, irrigated acreage in Arizona increased by almost 50 percent, while the other three states of the region experienced some reduction in such acreage (Table 4). Since 1949 an even faster rate of growth has been maintained in Arizona irrigation. Thus,

CHART 2
NONAGRICULTURAL EMPLOYMENT
TWELFTH DISTRICT INTERMOUNTAIN STATES, 1939-1953



Source: United States Department of Labor, Bureau of Labor Statistics and cooperating state agencies.

Arizona quintupled its tonnage of cotton output and quadrupled the value of its commercial vegetables between 1940 and 1953. New techniques of cultivation and new strains and varieties have led to rapidly rising yields in Arizona cotton culture in recent years and have thus made her strongly competitive with the long established cotton-growing states of the South, whereas in prewar years cotton culture was of little importance to the state.

Structure of Economic Activity

While the shifts of population and income within agriculture in the 4-state region are impressive and significant, it must be recognized that 84 percent of the population of that region is nonfarm population and 85 percent of the income payments received are nonagricultural income payments. The notable fact about Intermountain agriculture has been its ability to maintain its proportionate share of the total income while losing population steadily to nonagricultural pursuits. While employment on farms has been declining by about one-fifth, nonagricultural employment has nearly doubled (Chart 2). These facts are not to be taken as evidence that the economies of the Intermountain states are engaged in a headlong rush toward heavy industrialization. It is evident, however, that industrial progress consistent with the relatively limited industrial resources of the region is being made. The 4-state region accounted for only 48,000 out

TABLE 5
NONAGRICULTURAL EMPLOYMENT IN THE TWELFTH DISTRICT INTERMOUNTAIN STATES
1939 AND 1953 ANNUAL AVERAGES OF MONTHLY DATA
(in thousands)

	Arizona			Idaho			Nevada			Utah			4-state total		
	1939	1953	Percent change	1939	1953	Percent change	1939	1953	Percent change	1939	1953	Percent change	1939	1953	Percent change
Manufacturing	8.4	28.0	233.3	13.4	23.1	72.3	1.2	4.4	266.7	17.3	32.5	87.9	40.3	88.0	118.8
Mining	10.8	13.0	20.4	5.1	4.7	-7.8	6.2	4.8	-22.6	10.2	13.6	33.3	32.3	36.1	12.1
Construction	4.5	17.7	293.3	3.5	9.3	165.7	2.1	8.9	323.8	4.4	10.6	140.9	14.5	46.5	215.9
Transportation and public utilities	11.6	21.1	81.8	9.7	16.9	74.2	5.5	9.1	65.4	15.9	23.0	44.6	42.7	70.1	64.9
Trade	23.5	50.8	116.2	22.8	35.4	55.3	7.6	14.2	86.8	26.3	49.4	87.8	80.2	149.8	88.4
Finance	1.7	7.0	311.8	1.5	4.2	180.0	0.4	1.6	300.0	3.3	7.5	127.3	6.9	20.3	195.6
Service and miscellaneous	15.0	24.9	66.0	9.7	15.6	60.8	5.3	16.8	217.0	12.6	21.4	69.8	42.6	78.7	88.0
Government	18.7	38.8	107.5	18.2	26.0	42.8	6.4	12.1	89.1	20.3	56.8	179.8	63.6	133.7	108.5
Total	94.2	201.4	113.8	83.9	135.2	61.1	34.7	71.9	107.2	110.3	214.8	94.7	323.1	623.3	93.4

Source: United States Department of Labor, Bureau of Labor Statistics, *Employment and Payrolls*.

of a total of 7 million people added to the nation's force of manufacturing workers over a period of fourteen years. Nevertheless, this represented a gain of nearly 120 percent since total manufacturing employment in the 4-state region in 1939 was only 40,300. Even higher rates of growth were experienced from 1939 to 1953 in construction employment and employment in financial institutions (216 percent in the case of construction and 196 percent in the case of finance), also indicating some progress toward greater urbanization and industrialization as well as improvement in local financial services. Again it is Arizona which leads the way in this progress from dependence on relatively low income extractive and agricultural pursuits toward higher income economic activity, as can be seen from examination of Table 5.¹

That the structure of nonagricultural employment has not been greatly changed by the rather large percentage rates of growth exhibited in the construction, manufacturing, and finance categories is brought out by examination of Chart 3. In 1953 employment in government, trade, service, and miscellaneous activities constituted slightly over one half of the total, roughly the same as in 1939. Manufacturing, construction, and finance employed less than one-fourth in 1953, which represents a small gain over the proportion of total nonagricultural employment in these three categories in 1939. The growth in the relative importance of the latter three categories of employment came largely at the expense of the mining industry.

The various levels of government have consistently employed a labor force only slightly smaller than that of all manufacturing, construction, and finance combined. Maintenance of large areas of public lands, grants-in-aid for highway maintenance and construction, reclamation activities, establishment and maintenance of military installations, procurement of minerals and other raw materials, and aid to agriculture result in a rather large volume of government economic activity in this region. Nearly one-fifth of *all* income payments in the 4-state region are made by the various levels of government. A spectacular example of the impact of government activity in a local area is the building of a nuclear reactor near Arco, Idaho. Construction of the project increased Idaho's construction employment by 4,600 persons from 1948 to 1951. Its completion has led to a contraction in construction employment of comparable magnitude. This decline has been aggravated by the general decline in business conditions to the extent that Idaho construction employment has fallen by 5,600 persons between 1951 and the first half of 1954—a 45 percent drop.

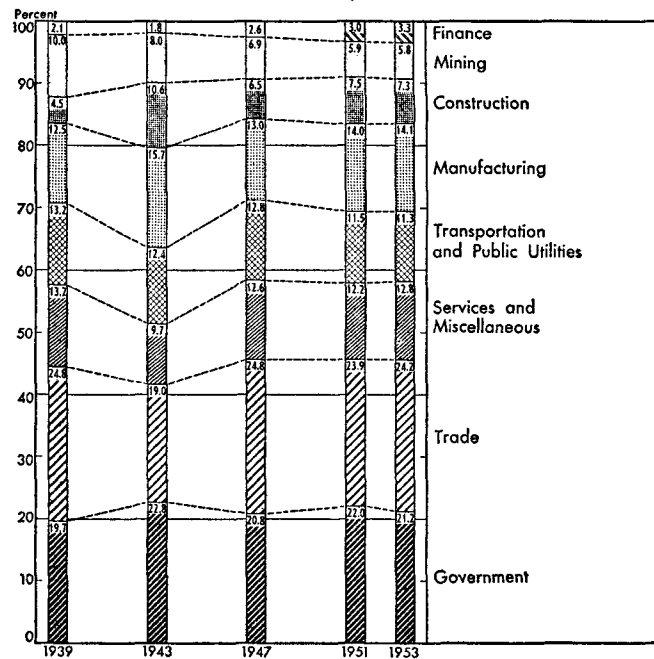
Industrialization

Value added by manufacture nearly quintupled

Although manufacturing still employs less than one-sixth of all persons employed in nonagricultural pursuits

¹ Nevada has experienced higher rates of growth in manufacturing and construction employment, but her absolute gain, particularly in manufacturing, is very small compared to any of the other three states.

CHART 3
PROPORTIONATE DISTRIBUTION OF NONAGRICULTURAL
EMPLOYMENT, TWELFTH DISTRICT INTERMOUNTAIN STATES
Selected years



Note: Annual averages of monthly data.

Source: United States Department of Labor, Bureau of Labor Statistics and cooperating state agencies.

in the 4-state region, there has been a very large over-all rate of growth, and in some types of manufacturing there has been progress symptomatic of an economy which is tending away from dependence on the agricultural and extractive industries. Value added by manufacturing increased by 385 percent in these four states between 1939 and 1952. However, much of that increase is due to price inflation; when corrected for changes in the wholesale price index, the increase was 118 percent. The increase in employment of production workers in manufacturing was 115 percent over the same period of time. By comparison, value added by manufacturing in the United States increased by 343 percent (99 percent, deflated) and employment of production workers in manufacturing increased by 62 percent.

The largest expansion of manufacturing in the 4-state region occurred in Arizona and Utah, but all four states enjoyed higher rates of growth in manufacturing employment than did the United States as a whole.

The structure of manufacturing was not greatly altered in the process of growth. The processing of food and kindred products still accounted for employment of nearly one-third of all manufacturing production workers in 1947 (the latest year for which such a breakdown of the statistics is available on an annual basis) as it had in 1939. That type of manufacturing plus the lumber and lumber products industries and the primary metals industries still accounted for about three-quarters of total employment of production workers in manufacturing. Nevertheless, important strides were made in industries

that are usually associated with more advanced industrialization. For example, employment of production workers in the manufacture of petroleum and coal products trebled, largely due to growth of that type of industry in Utah; petroleum refining, and the industries ancillary to it, has grown at a very rapid rate in the Salt Lake City district in recent years, stimulated in part by Federal Government investment during World War II and also by the rapid development of crude oil sources in the Intermountain states. For the most part the crude is supplied to Utah by the oil fields of Colorado and Wyoming, made available by the creation of an extensive pipeline network. However, since 1948, commercially significant quantities of crude oil have been forthcoming from Utah's own fields.

Utah has also enjoyed substantial growth in the meat packing industry, both in the process of providing for the expanding market which has resulted from the high rate of growth of population in the Intermountain states and in the expansion of its role as a processing way-point between the Plains states and the Pacific Coast. The state now has more than 70 packing houses. Most of these, of course, are small operations which operate to supply local markets. The larger, Federally-inspected plants located at Salt Lake City and Ogden provide the bulk of the meat shipped out of the state.

In response to the increased supply of steel and increased demand from the construction and machinery industries, the region's fabricated metals industry has more than doubled over the period of time being considered here. Employment has also doubled in the apparel industry, the furniture and fixtures industry, the chemicals and allied products industry, and the non-electrical machinery industry.

Among the firms that have become established in the region in the last several years are a major oil company which has entered competition in the refining business in the Salt Lake City district and which has recently expended \$10 million on a catalytic "cracking" unit; a chemical company which has established a \$6 million elemental phosphorous plant at Soda Springs, Idaho; one of the nation's largest manufacturers and suppliers of belts, hoses, and rubber products for industrial use which has established its western manufacturing facilities in Utah; a \$5 million superphosphate fertilizer plant near Garfield, Utah; a large electronics laboratory in Phoenix, Arizona, which ultimately will employ as many as 1,200 persons following completion of present expansion plans; and a large aircraft firm that has recently established a plant in Arizona.¹

Thus, the growth of Intermountain industry is seen to be of more than local interest. However, preoccupation with the growth of manufacturing as an indicator of economic development should not blind residents or observers of the area to the fact that dominance of manu-

facturing as opposed to the extractive and agricultural industries will have to await development of a basis of support for a large urban population. Such a basis can probably be provided only by further economic development of agriculture.

Significance of wartime stimulation to manufacturing

World War II was unquestionably stimulating to the economy of the Intermountain West in many respects, but in the opinion of Professor M. E. Garnsey of the University of Colorado, the importance of a few large war plants in certain localities may obscure the relatively small significance of such activities elsewhere in the region. Furthermore, whatever stimulation was afforded by wartime manufacturing, it appears to have had little permanent influence. Professor Garnsey writes:

"Much has been said about the westward movement of manufacturing since the war. Undoubtedly, such a movement has taken place, but not to the Mountain West. The great expansion in the postwar period has been directed toward the Pacific Coast and to Oklahoma and Texas. Of the \$1.6 billion of new construction of manufacturing plants contracted for between VE Day and the end of 1947, \$172 million was in the Pacific States and \$245 million in Texas and Oklahoma. In the eight states of the Mountain West, by contrast, new construction of industrial plants between VE Day and April 1948 amounted to just under \$60 million, or roughly 3 percent of the national total. Once again, this time in postwar manufacturing expansion, the Mountain West is being skipped over in favor of other more fortunate and more aggressive regions."²

Probably the most important type of economic stimulation arising from World War II and the Korean war has been less direct than the building of war plants. It is reflected in the high levels of agricultural income and the stability of mining operations over the wartime years. Without the high levels of wartime demand for the products of agriculture and mining, the high growth rates being discussed in this article could not have been attained. It should be added parenthetically that a considerable, but rather temporary, stimulus came to this area in the early forties from the location of military installations and Government experimental establishments. The large quantities of underutilized land attracted such developments during the war, but relatively few are active now. These spaces are a potential resource for the area, however.

Decline in relative importance of mining

Mining is traditionally associated with the Intermountain states and it continues to be strongly associated with that region in the minds of many observers even though it employs less than 6 percent of the nonagricultural labor force and accounts for less than 5 percent of total income payments. In 1939 the value of mineral production (including petroleum) in this region was no more than that of the combined mineral production of Kansas, Iowa, Missouri, and Arkansas and it was less than that of Oklahoma alone. Since that year, despite the wartime stim-

¹The firms referred to, in the order described are Phillips Petroleum Co., Monsanto Chemical Co., Thermoid Western Co., Western Phosphates, Inc., Motorola, Inc., and Douglas Aircraft Corp.

²M. E. Garnsey, *America's New Frontier, The Mountain West*. Professor Garnsey's "Mountain West" includes the 4-state region as well as Montana, Wyoming, Colorado, and New Mexico.

ulus to the extractive industries, mining in the 4-state region has not been able to maintain a rate of growth comparable to that of other nonagricultural economic sectors. In two states of this region, Idaho and Nevada, mining employment has declined gradually since 1939. In the 4-state region as a whole, growth in mining employment has been only 12 percent. The difficulty lies primarily in the mining of the base metals (copper, lead, and zinc) which forms the bulk of the mining industry in the West. Declining quality of ores, rising labor costs, foreign competition, and vigorous competition from substitutes have combined to keep production levels close to what they were at the start of World War II (Chart 4).

Nevertheless, this 4-state region is important nationally as a producer of minerals. In 1953, 78 percent of the nation's mine production of recoverable copper, 66 percent of lead, and 23 percent of zinc came from these four states. This region is also important as a strategic reserve area. Molybdenum, which has recently become of great importance in the planning and construction of very high-speed aircraft, is produced largely in this region;¹ and at least potentially important deposits of such significant minerals as tungsten, vanadium, titanium, antimony, helium, and cobalt are to be found. The success of prospectors in finding uranium in the western section of the Colorado Plateau has recently caused a boom in the small Intermountain town of Moab, Utah. It has been reported that at least 550 uranium-producing mines in the Colorado Plateau sections of Utah, Colorado, New Mexico, and Arizona are supplying more than the capacity of the mills that concentrate their ore. The steel industry of the West is heavily dependent upon the iron ore reserves and coal deposits of Utah. Both of the fully integrated steel mills in the Twelfth Federal Reserve District obtain most of their coal from Utah mines, and the largest of the two (the mill at Geneva, Utah) supplies itself with iron ore almost entirely from that state.

The existence in the 4-state region of large quantities of minerals which could serve as the basis of a fertilizer industry has been recognized for many years. However, the remoteness of these deposits has delayed their development. Potash has been found in widely scattered but deep deposits in the Paradox Basin of eastern Utah, and Idaho and Utah are reported to have deposits of phosphate rock approaching 7½ billion long tons. Some development of those deposits is under way, as is evidenced by the fact that between October 1950 and June 1953 certificates of necessity² aggregating \$40 million in certified value were issued by the Office of Defense Mobilization to chemical firms in those two states.

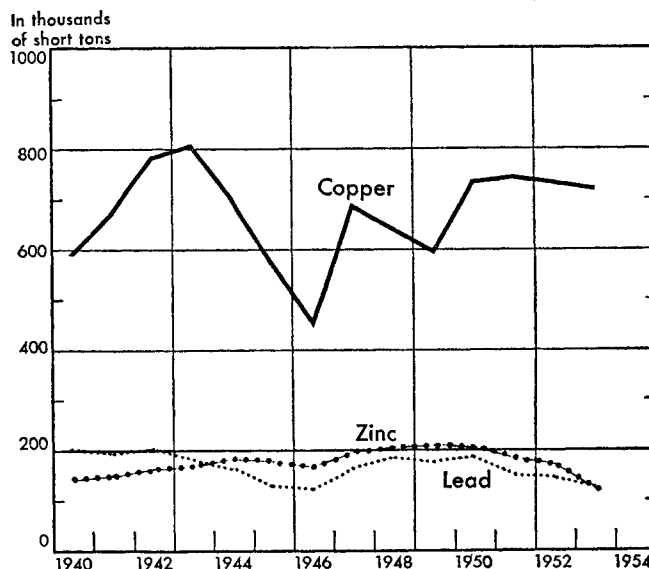
Expenditure on capital facilities has been high in recent years in copper mining in spite of the fact that the industry has been disturbed by market vicissitudes. In the main this expansion has been in the adoption of techniques for handling low-grade ores. At Yerington, Ne-

¹ Primarily as a by-product of copper.

² These certificates allow accelerated amortization of certified capital facilities for income tax purposes.

CHART 4

MINE PRODUCTION OF COPPER, LEAD, AND ZINC TWELFTH DISTRICT INTERMOUNTAIN STATES, 1940-1953



Source: United States Department of the Interior, Bureau of Mines.

vada, a \$33 million project was brought into operation late in 1953 and \$120 million is being spent to develop the sulphide and oxide ores at San Manuel, Arizona. The state of Arizona, where 45 percent of the nation's total output of copper is mined, has five major copper mining developments under way which will ultimately cost an estimated \$192 million.

Population Growth

Economic growth has meaning to society primarily in terms of its impact upon the ability of the economy concerned to support an increasing number of people and to raise their level of material welfare. As already indicated, a large rise in per capita real income has occurred in the 4-state region over the last fifteen-year period. At the same time the region has been able to provide a home and a means of providing a living for a larger portion of the nation's population. The total population of the Twelfth District Intermountain states grew from 1,686,000 persons in 1940 to 2,452,000 in 1953—an increase of 45 percent. By comparison, the nation's total population grew by 20 percent. The increase was not shared equally by the four Intermountain states. Arizona, the most populous of the states in 1953, enjoyed the greatest increase during this period, both absolutely and percentagewise, with an 80 percent growth. Nevada's growth was of much smaller absolute magnitude, but percentagewise ran a respectable second (76 percent). Utah and Idaho grew 30 percent and 15 percent, respectively. The Twelfth District as a whole, however, gained by 63 percent over the same time span, and of course in absolute terms population growth on the Pacific Coast was many times that of the Intermountain region. California alone gained 5 million in population in the years that spanned World War II and the Korean war; the total

TABLE 6

RATE OF POPULATION GROWTH AND COMPONENTS THEREOF
TWELFTH DISTRICT INTERMOUNTAIN STATES AND THE
UNITED STATES, 1940-50
(Percent change)

	Net change in total population ¹	Total births	Total deaths	Natural increase	Net migration
Arizona	50.1	34.7	12.2	22.8	27.4
Idaho	12.2	26.3	9.0	17.3	-5.1
Nevada	45.2	29.1	14.6	14.5	30.9
Utah	25.2	32.7	8.9	23.8	1.3
United States	14.5	24.5	10.8	13.7	0.8

¹ Components may not add to total due to rounding.
Source: United States Department of Commerce, Office of Business Economics,
"Regional Trends in the United States Economy."

gain in the four Intermountain states was less than 800,000.

The bulk of the population growth in the four Intermountain states is the result of natural growth—the excess of births over deaths. However, migration has been a factor of considerable significance, as Table 6 shows. Idaho was the only state of the four to lose population via migration in the decade 1940-50.

Population density increased in the 4-state region from 4.3 persons per square mile in 1940 to 6.2 persons per square mile in 1953. Utah has the highest population relative to area with 8.8 persons per square mile (1953) while Nevada has the sparsest population in the entire nation with only 1.8 persons per square mile in an area of 110,540 square miles. In the Pacific Coast states, population density in 1953 was 50.7 per square mile; in the United States, 52.4 per square mile. Thus, although economic growth has made it possible for the Intermountain area to support more people, space is still the most plentiful resource of the region.

**A Major Obstacle to Continued Growth:
Scarce Water**

The statistical view of economic growth which has been presented in the preceding pages can be given an ambiguous interpretation. The rates of growth are very high and, if one focuses on these relative gains, a very striking picture of growth can be brought out. On the other hand, the area's population density of 6.2 persons per square mile compared with 52.4 per square mile in the nation as a whole indicates that it is not yet highly developed. In large measure the lack of greater economic development in the Intermountain area can be attributed to lack of the resource base necessary for the support of a large population and a high development of industry. Almost none of the soil in the area could be tilled without irrigation of one type or another, and the proportion of the area which can ultimately be tilled with irrigation is estimated to be less than 4 percent of the total land area. About six-tenths of the ultimately irrigable land is already under irrigation (Table 7). Eighty percent of the territory in these four states is still classified as public land and it is generally conceded that, for reasons of conservation and because of the fact that most of it is of low economic value, the vast majority of the public land area

TABLE 7

AREA IRRIGATED IN 1949 AS COMPARED WITH ESTIMATED
ULTIMATELY IRRIGABLE LAND
TWELFTH DISTRICT INTERMOUNTAIN STATES
(In acres)

Area	Area irrigated 1949	Estimate of ultimately irrigable land	Percent of ultimate irrigated in 1949
Arizona	979,114	1,578,800	62.0
Idaho	2,167,879	3,755,500	57.7
Nevada	722,896	1,065,600	67.8
Utah	1,166,972	2,164,900	53.9
4-state	5,036,861	8,564,800	58.8

Sources: Area irrigated is from the 1950 Census of Agriculture. Estimates of ultimately irrigable land through reclamation are by the National Resources Board as quoted in United States Department of Agriculture, *Irrigation Agriculture in the West*, Miscellaneous Publication No. 670.

will probably remain such for many years, with little or no utilization. Nevertheless, in portions of the area that can obtain water for irrigation, exceptional developments can be accomplished; for the alluvial soil of many arid valleys is rich in plant nutrients so that intensive cultivation with a controlled water supply and (in some areas) a long growing season can result in very high agricultural productivity. Indeed, agricultural productivity per man-hour in the Intermountain area is now well above the national average.

Irrigation is a tremendous consumer of water, using fifty times as much per dollar of value of output added as the over-all average for industry. Hence, the pattern of water usage in the western states is very different from that in the eastern states:¹

Withdrawal for:	17 western states	31 eastern states
Domestic use	5 percent	16 percent
Industrial use	3 " "	81 " "
Irrigation	92 " "	3 " "
Total withdrawal in billions of gallons per day	95	90

Although irrigation agriculture is of overwhelming significance as a user of water in the western United States, nonagricultural economic growth also involves increasing demands upon the limited water resources located there. It has been argued that if economic development is to be continued in the arid and semiarid West, more attention must be paid to the apportionment of water among its various alternative uses than has been paid heretofore. In particular, supplies of water to meet additional industry demand must be provided. A very small proportionate increase in water supply in the western states could provide for a very large proportionate increase in supply for nonagricultural uses, if all or a large part of any increase were allocated to such uses. However, irrigation has a traditional priority of claim and therefore probably is to be expected to take at least its present proportion of any increase of supply. For similar reasons it seems unlikely that water will be diverted from present agricultural uses to industrial uses even if such diversion could be demonstrated to be desirable from an economic point of view. Aside from these essentially noneconomic arguments, supply of water for

¹ C. L. Hamman, "Water Policy and Western Industrial Development," *Proceedings of the Water Resource Development Committee of the Western Agricultural Economics Research Council*, March 2-3, 1953.

industrial use is likely to become a matter of increasing significance as the Intermountain West attempts to provide itself with industry that is not closely associated with agriculture. As heavier industry is established, larger water requirements become common. For example, it takes 65,000 gallons of water to make a ton of steel, 70,000 gallons to make a ton of paper, and 770 gallons to refine a barrel of petroleum.

Water is, thus, a resource of prime significance in this region. Unless water can be brought to these fertile soil deposits, the mineral deposits, and the industrial sites, they are not resources in any very practical, economic sense. Even if the water can, in terms of physical possibility, be put upon the land or transmitted to the mine and factory sites, the cost of each acre-foot is high. Building and maintenance of dams, canals, and pumping stations are high in cost even with the simplest sort of stream diversion. The modern project, which may involve siltation dams, vast storage dams, and supporting hydroelectric works, seems very likely to raise the marginal cost of expanding the water supply. Consequently, economic feasibility of expansion of agriculture and industry from the point of view of the individual farm operator and manufacturer as well as from that of the community is being given serious consideration.

In large measure the future of the Intermountain area of the Twelfth District depends upon the development of the two great river basins, the Colorado and the Columbia. Not all of the area discussed in this article lies within these two great drainage basins, and of course the two river systems drain several states not located in the Twelfth District portion of the Intermountain states. Nevertheless, the development of such important areas as the upper Snake River Basin in Idaho, the Uinta Basin in Utah, and the Salt River Valley in Arizona are all closely bound in interest to the planning and execution of the broad programs of resource use in the Columbia and Colorado Basins. In all of these areas continuation of high rates of economic development depends upon the achievement of some fairly comprehensive harnessing of the water resources available. In the upper Snake the potentially arable acreage is many times that now under cultivation, but there has been little extension of irrigated acreage during recent decades due to a "grossly inadequate" water supply. Approximately 70 thousand additional acres are scheduled to be brought under irrigation by 1958 with water supplied by Bureau of Reclamation projects in the upper Snake River. The largest of these projects is the Palisades Dam, now about 55 percent complete, on the South Fork of the Snake River near the Idaho-Wyoming border. It is primarily a storage dam and will have a capacity of 1.4 million acre-feet.

Plans are being discussed for diversion of water from the upper Colorado Basin to the Uinta Basin in Utah. Such a diversion would have to be preceded by development of a large storage project in the vicinity of the intersection of the Utah-Colorado-Wyoming state bound-

aries. The Reclamation Bureau has recommended that such storage and the necessary auxiliary controls be provided by the building of three dams including the controversial project at Echo Park in Dinosaur National Monument. These dams would store the waters of the Green and Yampa Rivers for irrigation, provide a flood control system, and generate power for the development of industry in that area.

Central Arizona is faced with serious problems of water supply which do not lend themselves to any readily agreed upon solution. The remarkable growth of that area is displayed by the record of the Salt River Valley Project published by the Reclamation Bureau:¹

	1910	1951
Irrigated acreage	15,000	297,000
Project farm and town population, Maricopa County	24,000	350,000
Carloads of farm products produced	21,250	82,000*
Carloads shipped from project	5,000	41,000*
Farm returns	\$6,254,000	\$105,479,000
Hydroelectric plants	1	8
Operating power revenues (gross)	\$46,000	\$8,109,000
Bank deposits	\$5,228,000	\$255,720,000

*Estimated.

This development has been accompanied in recent years by a seriously falling water table and growing concern for water supply in the future. From an engineering point of view the waters of the Colorado River can not easily be diverted into central Arizona, and even if they were, there exists in southern California a very strong competitive demand for all of the available Colorado River water. Arizonans, with the cooperation of the Bureau of Reclamation of the United States Department of the Interior, have planned a large scale diversion project which would involve generation of electricity at a new dam above Lake Mead which would be transmitted across the northwest corner of the state to Lake Havasu, above Parker Dam. From Lake Havasu, the waters of the Colorado River would be diverted to the eastward and lifted 985 feet by four pumping stations which would use the transmitted power. The water would then be channeled through a 240 mile aqueduct to the Salt River Valley Project area. According to the Central Arizona Project Association, central Arizona suffers from a chronic water deficit of 1,300,000 acre-feet. The state is claiming as its legal share only 1,200,000 acre-feet of Colorado River water per annum above that which it already uses.² In other words, if the estimate of the Project Association is accurate, Arizona needs all presently available water plus its claim to additional Colorado River water just to maintain her present acreage under irrigation. With this kind of a situation prevailing in the fastest growing section of the 4-state region, the critical relationship between water de-

¹United States Department of the Interior, Bureau of Reclamation, *The Reclamation Program, 1953-59*.

²This claim to Colorado River water is currently being contested by the state of California in the United States Supreme Court.

velopment and general economic development is dramatically illustrated.

To summarize briefly, the Intermountain region of the Twelfth District has enjoyed a very high rate of growth since the beginning of World War II. That growth period has seen significant increases in nonagricultural economic activity and improvement of economic conditions in agriculture to the extent that the average citizen of the region has received a large welfare gain. Still, the region remains sparsely populated with only certain localities being favored by much industrialization. Continuation of the progress made depends very largely on careful utilization of a resource which is exceedingly scarce in this region—water. For that reason the economic development

in the Intermountain West will depend in large part, as it has in the past, upon the progress made in harnessing the great river systems of the region.

REFERENCES: In the interest of avoiding excessive footnote citations and the loss of readability that accompanies them, we have perhaps not given full credit which is due to the authors of the many books, reports, and pamphlets which were consulted in the preparation of this article. We would like to encourage readers of the *Monthly Review* who are interested in the subject of Intermountain development to write to the Research Department of the Federal Reserve Bank of San Francisco for copies of a complete bibliography.

BUSINESS INDEXES—TWELFTH DISTRICT¹
(1947-49 average=100)

Year and month	Industrial production (physical volume) ²								Total nonagricultural employment	Total mfg employment	Car-loadings (num-ber) ³	Dep't store sales (value) ⁴	Retail food prices ⁵	Waterborne foreign trade ⁶	
	Lumber	Petroleum ¹		Cement	Lead ⁷	Copper ⁸	Wheat flour ⁹	Electric power						Exports	Imports
		Crude	Refined												
1929	80	87	78	54	165	105	90	29	.....	.....	102	30	64	190	124
1931	42	57	55	36	100	49	86	29	.....	.....	68	25	50	138	80
1933	34	52	50	27	72	17	75	26	.....	.....	52	18	42	110	72
1935	45	62	56	33	86	37	87	30	.....	.....	47	24	48	135	109
1937	61	71	65	56	114	88	84	38	.....	.....	60	30	50	170	119
1938	48	75	64	45	92	58	81	36	.....	.....	51	22	48	164	87
1939	60	67	63	56	93	80	91	40	.....	.....	55	27	31	163	95
1940	65	67	63	61	108	94	87	43	.....	.....	63	33	47	132	101
1941	77	69	68	81	109	107	87	49	.....	.....	83	40	52	.....	.....
1942	77	74	71	96	114	123	88	60	.....	.....	121	102	49	.....	.....
1943	74	85	83	79	100	125	98	76	100	164	99	59	69	.....	.....
1944	74	93	93	63	90	112	101	82	101	158	105	65	68	.....	.....
1945	61	97	98	65	78	90	112	78	96	122	100	72	70	.....	.....
1946	80	94	91	81	70	71	108	78	95	97	101	91	80	89	57
1947	94	100	98	96	94	106	113	90	99	100	106	99	96	129	81
1948	102	101	100	104	105	101	98	101	102	100	100	104	103	86	96
1949	104	99	103	100	101	93	88	108	99	97	94	98	100	85	121
1950	116	98	103	112	109	115	86	119	103	105	87	105	100	91	137
1951	115	106	112	128	89	115	95	136	111	122	100	109	113	186	157
1952	111	107	116	124	86	112	96	144	118	132	101	114	115	171	200
1953	119	109	123	130	74	111	96	161	122	139	100	116	113	140	308
1953 November	115	110	121	128	69	112	98	157	121	137	97	112	113	139	287
1953 December	114	109	125	120	67	104	96	158	121	137r	102	109	113	141	256
1954 January	122	109	121	114	62r	107	99	163	121	137r	93	109	114	108	210
1954 February	122	109	120	117	80r	102	97	160	120r	136r	90	107	114	156	271
1954 March	119	108	118	116	76	99	98	171	120	136	94	111	113	156	233
1954 April	120	107	119	134	71	98	96	168	120	136	99	111	113	157	232
1954 May	124	107	123	143	67	103	96	174	120	136	97	114	114	158	271
1954 June	108	107	119	140	69	105	96	183	119r	137	96	114	114	141	237
1954 July	80	106	118	143	63	91	92	179	119	131	88	115	113	141	331
1954 August	89	104	115	137	73r	75	101	174	119	130	90	115	113	96	282
1954 September	113	105	121	138	69	97	108	174	120	136	97	110	113	115	262r
1954 October	127	104	116	143	70r	110	105	176	120	137r	102r	116	113	.....	263
1954 November	120	104	119	132	73	116	104	177	121	138	97	114	111	.....	.....

BANKING AND CREDIT STATISTICS—TWELFTH DISTRICT
(amounts in millions of dollars)

Year and month	Condition Items of all member banks ⁷				Bank rates on short-term business loans ⁸	Member bank reserves and related items ¹⁰					Bank debits Index 31 cities ⁹ (1947-49=100) ¹¹
	Loans and discounts	U.S. Gov't securities	Demand deposits adjusted ¹	Total time deposits		Reserve bank credit ¹¹	Commercial operations ¹²	Treasury operations ¹³	Coin and currency in circulation ¹¹	Reserves	
1929	2,239	495	1,234	1,790	.....	- 34	0	+ 23	- 6	175	42
1931	1,898	547	984	1,727	.....	+ 21	- 154	+ 154	+ 48	147	28
1933	1,486	720	951	1,609	.....	- 2	- 110	+ 160	- 18	185	18
1935	1,537	1,275	1,389	2,064	.....	+ 2	- 163	+ 219	+ 14	287	25
1937	1,871	1,270	1,740	2,187	.....	- 1	- 90	+ 157	- 8	549	32
1938	1,869	1,323	1,781	2,221	.....	- 3	- 240	+ 276	+ 20	565	29
1939	1,967	1,450	1,983	2,267	.....	+ 2	- 192	+ 245	+ 31	584	30
1940	2,130	1,482	2,390	2,360	.....	+ 2	- 148	+ 420	+ 96	754	32
1941	2,451	1,738	2,893	2,125	.....	+ 4	- 596	+1,000	+ 227	930	39
1942	2,170	3,630	4,356	2,609	.....	+ 107	-1,990	+2,826	+ 643	1,232	48
1943	2,106	6,235	5,908	3,226	.....	+ 214	-3,751	+4,486	+ 708	1,462	60
1944	2,254	8,263	6,950	4,114	.....	+ 98	-3,534	+4,483	+ 789	1,706	66
1945	2,663	10,450	8,203	5,211	.....	- 76	-3,743	+4,682	+ 545	2,033	72
1946	4,068	8,426	8,821	5,797	.....	+ 9	-1,607	+1,329	- 326	2,094	86
1947	5,358	7,247	8,922	6,006	.....	- 302	- 510	+ 698	- 206	2,202	95
1948	6,032	6,366	8,655	6,087	.....	+ 17	+ 472	- 482	- 209	2,420	103
1949	5,925	7,016	8,536	6,255	3.20	+ 13	- 930	+ 378	- 65	1,924	102
1950	7,093	6,415	9,254	6,302	3.35	+ 39	-1,141	+1,198	- 14	2,026	115
1951	7,866	6,463	9,937	6,777	3.66	- 21	-1,582	+1,983	+ 189	2,289	132
1952	8,839	6,619	10,520	7,502	3.95	+ 7	-1,912	+2,265	+ 132	2,514	140
1953	9,220	6,639	10,515	7,997	4.14	- 14	-3,073	+3,158	+ 39	2,551	150
1953 December	9,235r	6,721r	10,575r	7,978r	4.19	+ 50	- 432	+ 438	- 26	2,551	158
1954 January	9,198	6,844	10,540	7,995	.....	+ 1	- 308	+ 125	- 86	2,468	146
1954 February	9,176	6,667	10,138	8,071	.....	+ 98	- 245	+ 80	- 2	2,398	153
1954 March	9,106	6,500	9,922	8,175	4.12	- 125	- 213	+ 315	- 29	2,413	158
1954 April	9,045	6,903	10,190	8,234	.....	+ 5	- 324	+ 381	+ 7	2,477	150
1954 May	9,001	6,991	10,045	8,306	.....	+ 9	- 148	+ 136	+ 36	2,432	143
1954 June	9,049	6,981	10,087	8,428	4.14	- 21	- 254	+ 277	+ 15	2,413	157
1954 July	8,989	7,190	10,310	8,444	.....	+ 29	- 307	+ 170	+ 3	2,308	145
1954 August	8,977	7,574	10,257	8,501	.....	- 18	+ 28	- 12	+ 7	2,317	154
1954 September	9,054	7,610	10,463	8,555	4.08	+ 16	- 170	+ 196	- 8	2,368	152
1954 October	9,048	8,014	10,749	8,651	.....	+ 9	- 138	+ 142	+ 23	2,364	150
1954 November	9,343	8,089	10,937	8,596	.....	- 1	- 244	+ 342	+ 27	2,440	158
1954 December	9,422	7,973	10,622	8,663	4.01	0	- 127	+ 175	- 23	2,505	173

¹ Adjusted for seasonal variation, except where indicated. Except for department store statistics, all indexes are based upon data from outside sources, as follows: lumber, various lumber trade associations; petroleum, cement, copper, and lead, U.S. Bureau of Mines; wheat flour, U.S. Bureau of the Census; electric power, Federal Power Commission; nonagricultural and manufacturing employment, U.S. Bureau of Labor Statistics and cooperating state agencies; retail food prices, U.S. Bureau of Labor Statistics; carloadings, various railroads and railroad associations; and foreign trade, U.S. Bureau of the Census.
² Daily average. ³ Not adjusted for seasonal variation. ⁴ Excludes fish, fruit, and vegetable canning. ⁵ Los Angeles, San Francisco, and Seattle indexes combined. ⁶ Commercial cargo only, in physical volume, for Los Angeles, San Francisco, San Diego, Oregon, and Washington customs districts; starting with July 1950, "special category" exports are excluded because of security reasons. ⁷ Annual figures are as of end of year, monthly figures as of last Wednesday in month or, where applicable, as of call report date. ⁸ Demand deposits, excluding interbank and U.S. Gov't deposits, less cash items in process of collection. Monthly data partly estimated. ⁹ Average rates on loans made in five major cities during the first 15 days of the month. ¹⁰ End of year and end of month figures. ¹¹ Changes from end of previous month or year. ¹² Minus sign indicates flow of funds out of the District in the case of commercial operations, and excess of receipts over disbursements in the case of Treasury operations. ¹³ Debits to total deposits except interbank prior to 1942. Debits to demand deposits except Federal Government and interbank deposits from 1942. p—Preliminary. r—Revised.