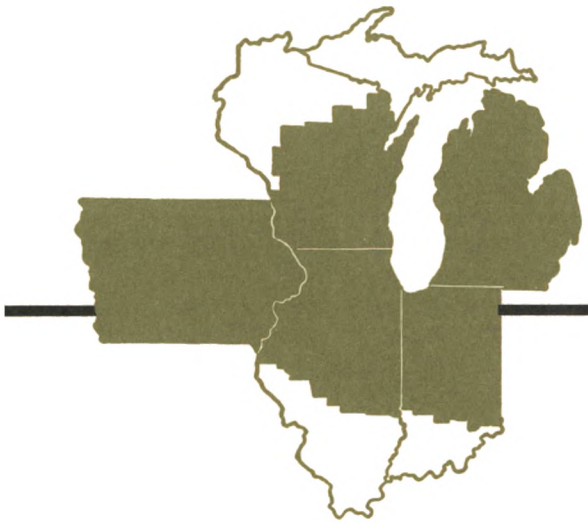
A review by the **Federal Reserve Bank of Chicago**

Business Conditions



1969 October

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Trends in the Midwest—

Population growth concentrated in suburban counties

The results of the 1970 census will not be known for at least two years. But county population estimates produced by the U. S. Bureau of the Census for 1966 and released late last year provide indications of what it will show. The mid-decade estimates reveal a continuation of such familiar trends as rural-to-urban migration and rapid suburbanization of large population centers. These tendencies probably continued during the second half of the 1960s. On the other hand, the Midwest has replaced the South as the principal source of families migrating to the rapidly developing West.

The Midwest lags behind . . .

The nation's population has been growing less rapidly recently than it did in the 1950s, a development shared by all major regions of the country—the Northwest, South, North Central and West. Even the dynamic West, which was expanding at twice the national average in the early 1950s, had its margin halved by 1965.

The North Central states, which include the Seventh Federal Reserve District, began the 1950s by keeping pace with the national average but have continued to dip below it since then. The eastern states of the North Central region—Ohio, Michigan, Indiana, Illinois, Wisconsin—have lost relatively more ground than the plains states in the western portion of the region.

Regional differences in population changes can be explained by variation in births, deaths, and migration. While variation exists among regional birth and death rates, much larger variation is found in net migration rates.[1] Furthermore, net migration rates are negative in some cases, but no major region has an excess of deaths over births.

During the early 1950s both the South and the West North Central regions were "deficit" areas, that is, net exporters of human resources to the rest of the United States. By the early 1960s, however, the South had become a net importer, although the West North Central states continued to export persons at the earlier rate. A more striking development occurred in the industrialized East North Central region which, unlike the whole North Central region, had been a net importer of population in the early 1950s; in the late 1950s this region became a net exporter and the rate at which people were leaving increased during the early 1960s. In contrast, the industrialized Northeast states were adding persons through migration at the same rate throughout the entire period.

Forces may already be at work to reverse these trends in the Midwest. If the early 1960s period is broken into two parts—1960-63 and 1963-66—the East North Central states are found to have been exporting human resources heavily in the first half, while importing moderately in the second half. In fact, during 1960-63 the East North

[1]The net migration rate for a region equals the difference between the number of people moving into and the number of people moving out of the region divided by the region's population at the mid-period.

Central states were exporting population almost as rapidly as the West North Central states; the only other major section of the country to export population in the same period was the Kentucky-Tennessee-Mississippi-Alabama area.

The natural rate of increase (excess of births over deaths) in the U. S. and all of its major component regions remained virtually unchanged between the two halves of the 1950s decade, but dropped by 20 percent during the early 1960s. The change was very nearly the same for all regions even though birth rates differ considerably among them. For instance, the West has a natural rate of increase that is one-sixth larger than the North Central states and two-fifths larger than the Northeast.

The eastern and western portions of the North Central area have similar rates of natural increase and are very close to the national average. This, however, may be too high to be sustained. Since the states of Ohio, Michigan, Indiana, Illinois, and Wisconsin are old, industrial, highly urbanized states, like the states of the Northeast, they should have comparable rates of natural increase. Yet, the Northeast states have been below the national average for many years. If the Northeast is an appropriate pattern for the East North Central, the out-migration observed in recent years in the east North Central region is probably a signal for a slackening rate of natural increase.

Population change in counties of Seventh District states, 1960-66, by size of central city

	1960 population (thousands)	Growth 1960-66 (percent)	Share of population gains (percent)
Central city 50,000 and over	19,459	7.7	81.0
Central city over 1,000,000	12,208	7.5	49.4
Central county	9,531	3.8	19.3*
Suburban counties	2,677	20.9	30.2*
Central city 25,000-49,999	2,676	6.3	9.1
Central city 10,000-24,999	1.780	5.6	5.4
Central city less than 10,000	5,361	1.6	4.5
Total	29,276	6.3	100.0

*Subtotals may not add due to rounding.

. . . but national trends are at work in the region

A county-by-county analysis of the states of the Seventh Federal Reserve District reveals a clear trend of population concentration. Metropolitan, particularly suburban, counties generally grew more rapidly than any others except those with major college campuses. These same trends have also been observed throughout the United States.

For an overall view, counties of the Seventh District states were ranked according to their 1960 population and divided into five groups each with an equal number of counties, that is, quintiles. The two groups containing counties with the smallest population lost population during 1960-66. The very smallest group, containing counties of two to thirteen thousand persons declined by 6.6 percent—a reflection of the continuing exodus from the farm to the city. County decline was most widespread in Iowa with 70 percent of the counties showing net population losses.

The three groups of counties at the upper end of the population scale all had net gains. The top quintile grew most rapidly, above average for the district states, but below the national average. The second and third quintiles grew at rates below the five-state average.

Another perspective is obtained by ranking

the same counties by their growth rates during the 1960-66 period and dividing them once again into quintiles, that is, five groups roughly equal in numbers. Only those counties in the first quintile grew more rapidly than the national average. When these quintiles are designated on a map, some general patterns emerge: (1) growth rates were generally larger in the vicinity of the major metropolitan centers of Chicago, Detroit, and Indianapolis; (2) counties containing small cities grew more rapidly than those containing none; and (3) counties containing major colleges and universities tended to grow more rapidly than other counties of comparable population.

These broad patterns can be examined more closely by grouping the counties according to the size of their largest, or central, city. In cases where no single city predominates, the populations of the competing cities are summed. Four groups of counties are formed with central cities of 50,000 or more (including neighboring suburban counties), 25,000-49,999, 10,000-24,999 and under 10,000, and population growth rates are calculated for each group. Growth rates decline uniformly with the size of the central city.

Counties with central cities in excess of 50,000 are often the core of a Standard Metropolitan Statistical Area, or SMSA as defined by the U. S. Bureau of the Budget. A single SMSA may contain several counties. Those counties which do not contain the central city are classified as suburban. Suburban counties grew over five times more rapidly than the core counties. The counties containing Chicago, Detroit, Milwaukee, and Indianapolis grew only as rapidly as counties of medium population. But, because of the already large population of these counties, they accounted for nearly 20 percent of all new persons in the region. Together with their suburban counties, they accounted for about one-half of all population increase in the Seventh District states.

Population change in counties of Seventh District states, 1960-66, by size class

Quintile	Size range	1960 population	Population change between 1960-66
	(thousands)		(percent)
1	5,129-51	21,552	7.7
2	51-28	3,419	5.8
3	28-19	2,031	2.0
4	19-13	1,446	—0.7
5	13-2	825	—6.6
Overall	5,129-2	29,276	6.3

The map suggests a pattern likely to be shown by the 1970 Census, namely the emergence of "exurbia"—exurbanites, in general, do not work in the central city but are employed in its suburbs instead. The Chicago-Milwaukee area contains many contiguous counties, all having growth rates above the national average, but which are not included in the official definition of either the Chicago or Milwaukee metropolitan area.

The only other nonurban counties which have consistently shown stronger population growth than the national average are the counties containing major college campuses. A major college campus is defined for present purposes as one with at least 5,000 students. In the five-state area, 15 nonurban counties qualified as major college centers. They grew at a rate about one and one-half times the national average and over twice the average for the five states. A total of 15 SMSA counties (disregarding the four largest where the college population is a small fraction of the whole) contained campuses of major universities and grew at the same rate as their nonurban counterparts.

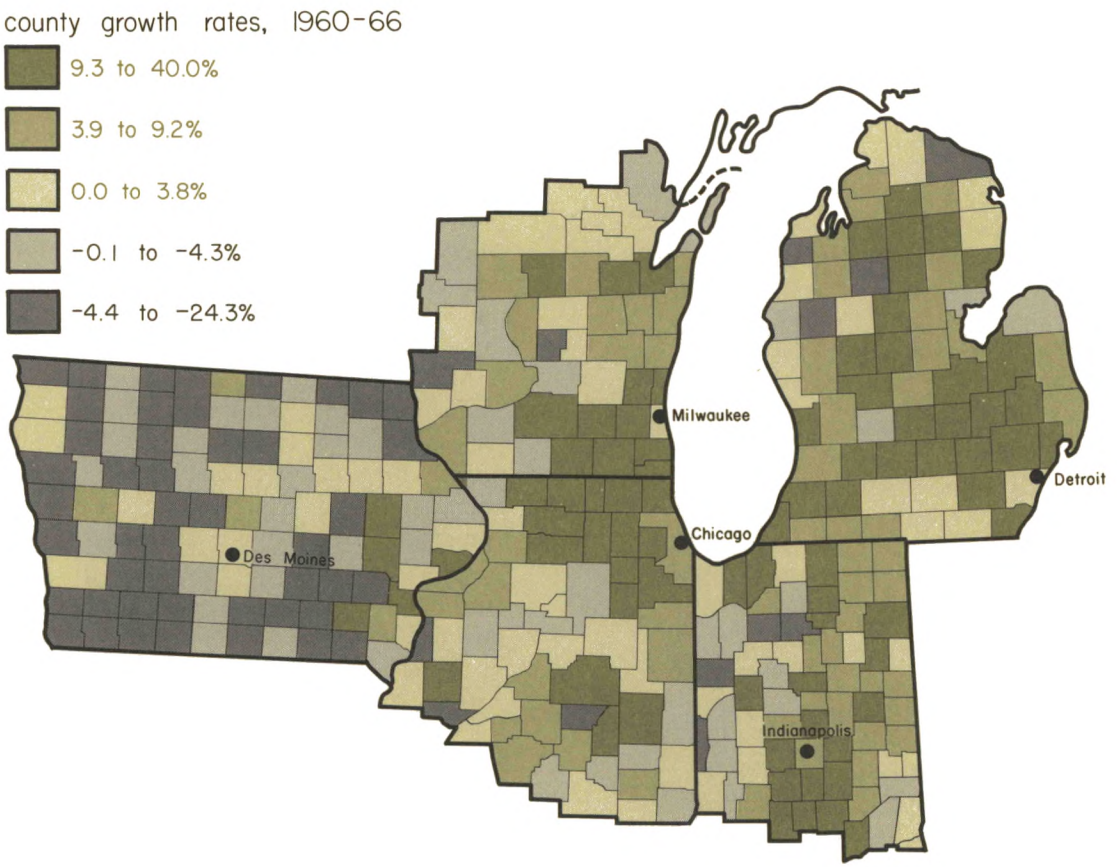
Based upon the size of the central city in

the county, nonurban counties should have grown at two-thirds the rate of urban ones. In equalizing the actual growth rates, the nonurban counties exceeded statistical expectations of population growth.

There are two major exceptions to these patterns which are readily apparent from an examination of the map.

In 1966 the northern portion of the lower peninsula of Michigan contained no cities larger than 10,000 persons, and only two educational institutions with more than 5,000 students and yet many of these counties had shown impressive growth. The opening of the Mackinac Straits Bridge and the strong growth of demand for recreational services probably account for this development, because the counties are oriented along an axis

Major metropolitan centers are focal points for rapid growth



SOURCE: Bureau of the Census, 1968.

that coincides with the path of route I-75 leading from Bay City to Sault Ste. Marie.

In Iowa, on the other hand, counties that would have been expected to grow rapidly because of the presence of either a city or college campus often failed to do so. A similar pattern has been noted in some other areas such as Appalachia. The expansion of urban centers in areas showing a massive loss of human resources often has been retarded.

Special drawing rights

The evolution of the international monetary system reached a historic milestone last month. At the annual meeting of the International Monetary Fund held in Washington, the necessary majority of the Board of Governors of the Fund approved creation of $9.5 billion of new international reserve assets over the next three years. It is expected that early next year the member countries will begin to share the newly created reserves.

The step represents a culmination of years of extensive studies, negotiations, and hot debates both in academic circles and among government officials about the need—as well as the ways and means—to supplement the international liquidity of trading nations and thereby assure a smoother functioning international payments mechanism.

International liquidity: the issue

The major characteristic of the existing international payments system is the relatively fixed rates of exchange of currencies of various countries in terms of the dollar. This feature has been, in the view of many observers, an important factor contributing to the tremendous expansion of international commerce during the past 20 years. Its maintenance, however, imposes certain responsibilities on the monetary authorities of individual countries. They are required to intervene in the foreign-exchange markets whenever changing supply and demand conditions in the market cause the "price" of their currencies relative to the dollar to deviate from the agreed upon limits.

In international trade, countries need an adequate supply of readily usable reserves or of credit sources. Gold, U. S. dollars (that accrue to individual countries as a result of U. S. balance of payments deficits), and British pounds have traditionally been used as reserve assets because of their wide acceptability in international transactions. The major source of credit for countries in balances of payments difficulties has been the facilities provided by the International Monetary Fund (IMF). But with the continued rapid growth in the volume of international trade and capital movements in the late Fifties and early Sixties, concern began to mount about the long-run adequacy of these traditional sources to meet the increasing demand for reserves by the trading nations of the world.

Accentuating the problem has been an increasingly uneven distribution of reserves—the result of chronic balance of payments surpluses and deficits by certain groups of countries, shifting patterns of preferences of

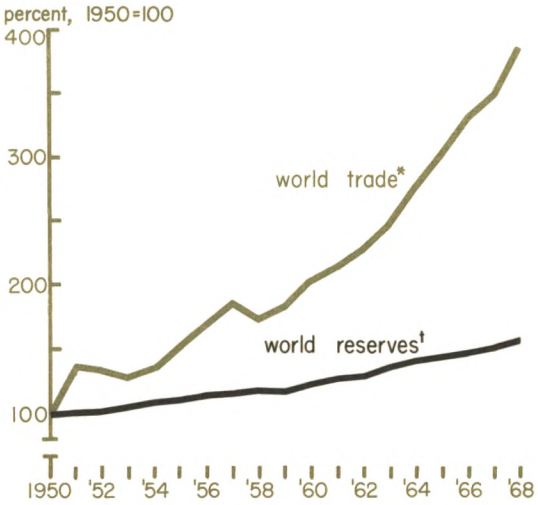
individual countries with respect to the composition of their reserves and the absorption of monetary gold by private speculators.[1] The combination of these factors raised the danger of inadequate international liquidity. It was feared that countries, confronted by shortages of reserves, would resort to restrictive trade practices and thus impede the growth of international commercial relations.

SDRs: evaluation of an idea

At the time of its usual fifth year quota review in 1963, the International Monetary Fund and, in addition, a group of finance Ministers and Governors from ten major countries,[2] undertook broad and detailed studies of the problem. As a result of the IMF's study, action was taken in 1965 to increase the credit facilities of the IMF through an increase in member countries' quotas from $16 billion to almost $21 billion. But an increase in international liquidity through supplementation of credit facilities was considered only a partial answer to the problem. A search for "owned," unconditional liquidity continued.

Based upon studies emanating from study groups organized by the Ministers of the "Group of Ten" and after almost two years of debate and negotiations among representatives of individual countries, a tentative agreement was reached at the annual meeting of the IMF in Rio de Janerio in September 1967 to issue a reserve asset to be known as the "Special Drawing Rights"—the SDRs. Legal procedures for formal adoption of the plan were started and by July of this year the legislative approval of the necessary majority

Growth in world's liquidity lags behind growth in trade



*As measured by world imports (c.i.f.) excluding Soviet area countries.
†Gold, foreign exchange, and reserve position in the IMF of all countries except those in the Soviet area.
SOURCE: IMF's International Financial Statistics.

of the member countries was obtained.[3]

Although the legal framework was formally established by this approval, some unresolved issues still remained before the plan could be activated. These issues centered on the questions "when" and "how much." Some major countries felt that the increments to international liquidity generated by continued U. S. balance of payments deficits were sufficient to meet, in the foreseeable future, the world's need for reserves. They were opposed to an early activation of the plan in anything but token amounts until the U. S. deficit was eliminated. Others argued that the level of the world's reserves had been dangerously low and that, the U. S. deficit

[1]See **Business Conditions**, August 1968 and February 1969.

[2]Italy, France, the Netherlands, Germany, Belgium, Canada, Japan, Sweden, the United Kingdom, and the United States.

[3]The U. S. Congress approved the "Special Drawing Rights" Acts in June 1968. It was signed by the President on June 29th.

notwithstanding, reserves should be supplemented by issuance of SDRs in substantial amounts. Since 85 percent of the total voting power of the participating nations was required to activate the scheme, a broad concensus of major countries was essential to launch the plan.[4] The deadlock was broken recently when, in the course of a regular monthly meeting of the representatives of the Group of Ten countries in Paris, a compromise was reached on the amounts to be issued. This cleared the way for formal introduction of the activation proposal by the Managing Director in September.

Nature of SDRs

The special drawing rights will be "money" strictly for use by the monetary authorities of individual countries. Like demand deposit "money," SDRs will consist of book entries, in this instance, in the Special Drawing Account established in the IMF. But unlike demand deposit "money," the SDRs will not be a liability of any one country or institution. SDRs will be a fiat money, backed by the combined economic strength and solemn obligations of participating countries. Although the unit of value of the Special Drawing Rights will be equivalent to 0.888671 grams of gold (which equals the "gold content" of the U. S. dollar), the SDRs will not be convertible into gold. They will, however, have a gold value guarantee in use among participating nations. Hence, any eventual revaluation or devaluation of countries' currencies will not affect the value of the SDRs. That is, if a single currency were to be devalued in terms of gold (or if the gold price in terms of all currencies were to be raised), a unit of SDRs would command more units of the devalued currency (or of all currencies if the "devaluation" were to be universal).

Use of SDRs

The provisions in the Articles of Agreement regarding the use and acceptance of SDRs by the participating countries are of key importance in the entire scheme. Since the major purpose of reserves is to enable monetary authorities to undertake intervention in the foreign exchange markets and SDRs are not directly usable for that purpose, their value to holders derives solely from their acceptance by other participating nations in exchange for usable currencies of other nations.

A participant is expected to use SDRs only when it is experiencing balance of payments or other reserves difficulties. A country is explicitly prohibited from transferring SDRs solely for the purpose of changing the composition of its reserves. This condition met, the holder may arrange to transfer SDRs to another participant in exchange for convertible currencies. Alternately, the nation may request the Special Drawing Account of the IMF to designate a country or countries with which the exchange could be affected. The Articles also specify the criteria that the Special Drawing Account will use in designating such countries. In general, a participant shall be subject to designation if its balance of payments and reserve position are sufficiently strong. To encourage acceptance of SDRs the Fund will pay interest (at present tentatively set at one-half of 1 percent annually) on the total holding of SDRs by individual countries.

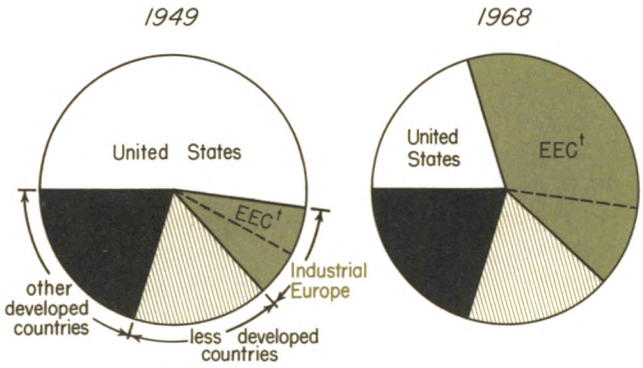
How will countries use SDRs?

Use of SDRs by the participating countries can be illustrated by the following example.

[4] In this instance the voting power is determined by a formula that gives each member 250 votes plus one additional vote for each part of its quota equivalent to $100,000.

Suppose Mexico, which under the proposed scheme is to receive about 120 million units of SDRs over the next three years, experiences a deficit in its balance of payments. The peso would tend to depreciate relative to the dollar on the exchange markets and intervention—sale of dollars by the Mexican monetary authorities—would be necessary. If Mexico's supply of dollars were adequate, it could simply go on financing the deficit by drawing down its dollar balances until corrective measures had been taken to eliminate it. But if the deficit were a prolonged one, the authorities might decide to supplement their dollar reserves by $50 million through the use of SDRs. They would then approach the IMF with a request to designate countries eligible to receive SDRs in return for foreign exchange. The IMF, after analyzing the participating members' balance of payment and reserve positions would designate countries, possibly Japan and Belgium, in position to effect the exchange. After consultation with them, the IMF might debit Mexico's special drawing account by 50 million SDRs and credit Belgium's account by 20 million SDRs and Japan's account by 30 million. In return, Mexico would receive $30 million from Japan and 1 billion Belgium francs from Belgium. (The amount of francs received is, given the fixed dollar-franc exchange rate, equivalent to $20 million). The Mexican authorities would then sell francs in the foreign exchange markets for other currencies, probably dollars, and add these to their reserves to be used for intervention in the foreign exchange markets of the world.

Reserves shift in favor of Industrial Europe in past 20 years*



*Includes gold, foreign exchange, and IMF reserve position.
†European Economic Community.
SOURCE: IMF's International Financial Statistics.

The Articles of Agreement set definite limits on the amounts of SDRs a participating country must accept. A country cannot be asked to hold more than three times the amount of SDRs cumulatively allocated to it, although, if it so chooses, it may hold larger amounts on a voluntary basis.

Safeguards of the system

The transfer of SDRs among the participants in the scheme, though nominally consisting merely of "book entries" in the Special Account at the IMF, ultimately implies transfer of real goods and services among countries. A country that surrenders its own currency for SDRs is placing directly usable claims on its resources into the hands of foreign residents and governments. It is, therefore, no wonder that the issue concerning the duration and extent of usage of SDRs by individual countries has been the one most hotly debated during the negotiations on the facilities to be provided.

On one hand, some insisted that a participant that utilizes its allocated SDRs to finance

a deficit in its balance of payments should be required after a specified period of time to restore its holding to its original level. Such provision, they argued, would preclude a permanent transfer of resources.

On the other hand, it was argued that placing a legal requirement on restoration would, in effect, make the facility a credit—not an unconditional asset comparable to gold—which was the aim of the plan.

The provisions finally agreed upon and incorporated in the Articles of Agreement represent a compromise between these opposing views. A participant will be required to maintain a minimum average balance amounting to 30 percent of its allocation of SDRs during an agreed upon period. This provision gives each country the freedom to use, in time of need, all the SDRs allocated to it. However, it also requires the country to manage its SDRs in such a way as to achieve, over the three-year basic period, a daily average balance of 30 percent. After the scheme has been in operation for some time, the Fund will undertake a monthly analysis of the average usage of SDRs by the participating countries. This will ascertain the participant's needs to acquire SDRs so as to conform with this requirement, and will assist a participant to maintain the necessary amounts of SDRs as the end of the basic period approaches. Ultimately, any participant whose average usage of SDRs over the basic period exceeds 70 percent of the allotment, will be required to purchase the necessary amount of SDRs with convertible currencies from other participants that will be specified by the Fund based on SDR distributions at that time.

IMF Quotas and allocation of SDRs of selected countries and areas

Country	IMF quota (millions of U.S. dollars)	Percent of the total[1]	Expected allocation of SDRs over next three years[2] (in millions of units of SDRs)	Maximum acceptance obligation from other countries[3]	Maximum permitted average usage[3]
United States	$5,160	24.3	2,308	4,616	1,616
United Kingdom	2,440	11.5	1,092	2,184	764
Canada	740	3.5	332	664	232
Common Market	3,769	17.7	1,682	3,364	1,177
Belgium	439	2.1	200	400	140
Germany	1,200	5.6	532	1,064	372
France	985	4.6	428	856	300
Italy	625	2.9	275	550	192
Netherlands	520	2.4	228	456	160
Japan	725	3.4	323	646	226
Latin America (22 countries)	1,956	9.2	874	1,748	612
Middle East (10 countries)	668	3.1	294	588	206
Other Asia (15 countries)	2,312	10.9	1,036	2,072	725
Africa (40 countries)	1,192	5.6	532	1,064	372

[1]As of July 1969.
[2]Based on quotas in existence at the end of September 1969.
[3]Based on official cumulative allocation over the three-year period.
SOURCE: IMF's **International Financial Statistics.**

What will the SDRs mean for the U. S.?

The introduction of SDRs will be of special significance for the United States because of the role the dollar has played in the present international monetary arrangements. Both the practical usage of SDRs and their long run implications will be somewhat different for the United States than for any other country.

The usage of SDRs by the United States will derive from the unique way this country finances its balance of payments deficits or surpluses. Unlike other countries, the United States monetary authorities do not buy and sell foreign exchange to maintain the exchange rate of the dollar within the prescribed limits. The operations undertaken by individual countries on the behalf of the dollar rate are sufficient to achieve the stability. Instead, the United States undertakes to convert into gold or convertible currencies extra dollars accumulated by other central banks and to sell dollars to them for gold.

In the past, the United States used its gold stock or its "credit line" with the IMF to absorb unwanted dollars that accrued to foreign central banks as the result of the U. S. deficit. With the introduction of SDRs, the United States will have, within the rules governing the use of the SDRs by any one country, the additional option of affecting the absorption by exchanging the unwanted dollars for SDRs. This will aid conservation of the U. S. gold stock and thus contribute to the viability of the existing international payments mechanism.

In the long run, the introduction of SDRs may be expected to modify the role of the dollar as a reserve currency. The view that the dollar cannot and should not be expected to meet the world's future needs for growth of reserves has been the underlying rationale for the introduction of the SDRs. Thus, the relative importance of the dollar as a source of international liquidity may be expected to diminish gradually as more SDRs are introduced over time.

At the same time, however, the vital function the dollar has performed as the "international transactions currency" will, most likely, remain unaffected; indeed this role may be strengthened by the introduction of arrangements that hold a promise of a better functioning international payments system.

Making the international system work

In the quarter century since World War II, the growth in prosperity—or in some instances the aspiration for prosperity—of peoples around the world has become increasingly dependent upon the international flows of commerce. Underpinning these flows has been the international payments mechanism. Without its efficient functioning, the growth could hardly take place. It has been, therefore, incumbent upon governments of all countries to exert, in the long-run interest of their people, every effort to assure that the system functions smoothly. The adoption of the SDR plan has been an important step in that direction. Only practical experience with the day-to-day operation will show how effective it will be in easing the problems that the international monetary system has encountered in the past several years. Other changes may be necessary. But one thing is already clear. The adoption of the plan represents a decisive demonstration of the willingness and ability of the world's monetary authorities to work together in solving the many problems encountered.

Developments in the cattle industry

Continued growth indicated

The cattle industry is large and diverse, with animals produced on nearly three-fourths of the nation's three million farms. Herds range from a few head to many thousands. The production cycle on individual farms may encompass only a few months of specialized feeding or the entire range of activities—from breeding herds to the fattening of animals destined for slaughter.

Farmers' sales of cattle and calves in 1968 exceeded $11 billion and accounted for about a fourth of their gross receipts.

Consumers spent close to $15 billion for beef last year, and consumed an average of 109 pounds per person. Approximately 15 percent of the average family's food expenditures are for beef.

Cattle prices have trended upward with some fluctuations since about 1964, and each month since May 1967 prices of slaughter cattle have averaged higher than a year earlier. During the first half of 1969 farmers received around $26 a hundredweight for beef cattle—more than $3 above the same period in 1968. In June, the average price received by farmers for beef animals reached nearly $30 a hundredweight. Except for 1951 (Korean War), that was the highest price ever recorded. Although prices are down from their midyear peak, they are still well above a year ago.

The rise in prices is largely attributable to a very strong rise in demand, since production of beef has been at a record level and large supplies of other meats have been available. On a per capita basis, however, beef production in the first half of 1969 was slightly below a year earlier but production of other meats increased about 2 pounds per person.

The rising demand for meat, and beef in particular, is a trend of long standing—a characteristic of an economy that provides rising real income for the population. Consumption of beef has climbed from less than 50 pounds a person in the early 1930s to about 109 pounds in 1968.

Regional differences in consumption

Beef consumption varies considerably among regions of the nation. Surveys of food consumption in 1955 and in 1965 showed that persons living in the North Central Region and Western Regions consumed more beef on average than those living in the Northeast and the South, especially the South. Although the North Central Region accounts for a little less than 28 percent of the population, slightly over 30 percent of the beef is consumed there; the West has about 17 percent of the population and 19 percent of beef consumption.

Per capita expenditures for beef vary somewhat more between regions than per capita consumption. This is because areas of relatively low consumption tend also to be areas of relatively low beef prices and relatively large proportions of consumption consist of the cheaper cuts and lower quality meats. Expenditures per capita are highest in the Northeast and Western regions.

Although the South is considerably below other areas of the country both in terms of

quantity and value of beef consumed, it is the fastest growing market for beef. Between 1955 and 1965, the quantity of beef consumed in the South jumped from 21 percent of the nation's total to around 27 percent and expenditures for beef rose from 18 to 25 percent of the total outlays in the nation. Nearly all of the relative increase was caused by increases in consumption per person. Per capita consumption rose about 68 percent, nearly triple the average increase in the other areas.

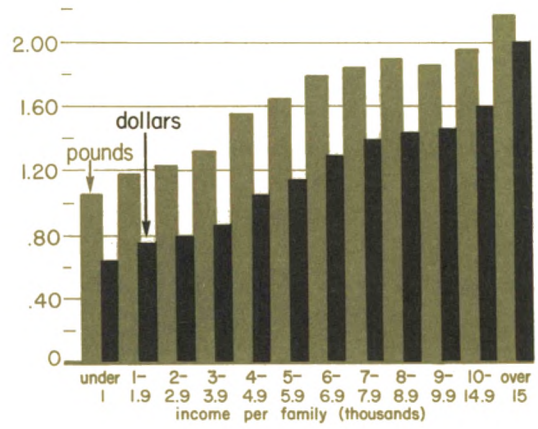
Many factors influence beef consumption —production, prices of beef and beef products relative to other meats and other goods, income and population changes, including shifts in size and age distribution of families. All have an impact on beef consumption, although some have more influence than others.

Consumption of beef in any fairly short period, of course, is determined largely by the production or the available supply. Because beef is perishable and storage stocks normally are small, consumption must roughly equal production. Over a longer period of time, however, production of beef is determined largely by demand. The price consumers are willing to pay for beef affects cattlemen's profits and their decisions to increase or curtail production.

Income

Numerous studies, by the Department of Agriculture and others, indicate that families with higher incomes consume more meat than lower income families. This was verified by the food consumption surveys referred to earlier. In each of the four major regions of the United States (Northeast, North Central, South, and West) beef consumption per person was larger in the higher-income households than in the lower-income households. The relationship is most striking in the South where households with annual incomes

Beef consumption rises with income*



*Per person, one week, Spring 1965.

over $10,000 consumed more than twice as much beef per capita as households with earnings under $4,000. Nationally, the surveys indicate that a 10 percent increase in income is associated with an increase in beef consumption of about 3 percent. Also, expenditures appear to increase faster with increases in income than quantities consumed. Apparently, as income increases consumers tend to purchase higher priced cuts of beef, better quality beef, or kinds of beef that include more service cost.

Most of the differences in beef consumption between regions in the nation appear to be explained by differences in income. Certainly the lower average incomes of the South, and of southern farmers in particular, contribute to the below-average consumption of beef in that region. The rapid increase in incomes in the South relative to other areas during the past few years has been chiefly responsible for the upsurge in consumption in that area. From 1960 through 1967, income per person in the South rose by nearly a half. This com-

pares with a gain of slightly over 40 percent for the entire nation.

Population

Increases in population have created an expanding market for beef. However, the impact over time has been uneven because of varying rates of population growth, geographical shifts in population, and changes in the age distribution of the population. Population in the United States increased around 1.8 percent per year in the 1950s but slowed to around 1.5 percent through the mid-1960s.

Food consumption and especially consumption of beef varies with age. The young and the old tend to eat considerably less than do teenagers and young adults. The 1965 survey indicates that young adults, 20 to 34 years old, consume about twice as much beef as individuals over 65 years of age and more than three times the amount consumed by children under 10 years.

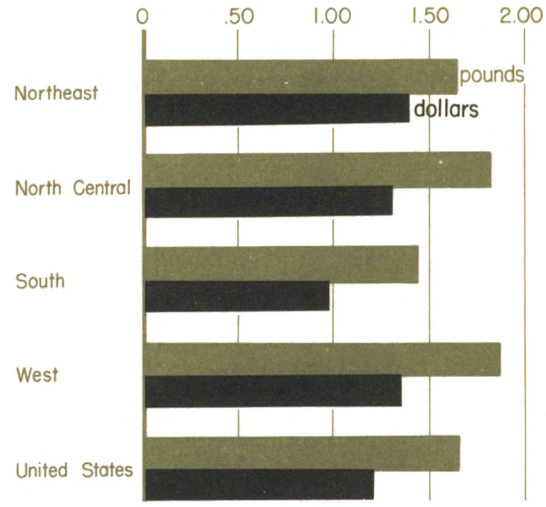
The rapid increase in these two age groups (under 10 years and over 65 years) tended to moderate the impact of increases in total population on demand for beef during the 1950s and the early 1960s. However, since about the mid-1960s the growth of teenagers (resulting from the post World War II "baby boom") outpaced the increases in the younger and older age groups and gave added impetus to the expanding demand for beef.

Future demand

The demand for beef appears certain to grow further over the next several years as the two major factors stimulating demand—population and income—increase further.

Population, according to one projection made by the U. S. Bureau of the Census, will increase about 1.4 percent annually over the next several years. This would result in a population of around 243 million for 1980

Southerners eat less beef*



*Per person, one week, Spring 1965.

or an increase of more than a fifth.

Since 1955, the most rapid growth in population has occurred in age groups under 19 and over 65. However, the largest increases in the next decade will be in the 20-34 age group. Consequently, growth in the labor force, family formation, and consumer expenditures for food and other goods and services probably will rise rapidly. Although it is not possible to measure precisely the impact of changes in age composition on the demand for beef, the projected changes would appear to support a strong increase in demand through about 1975 and somewhat less support thereafter.

A study conducted in 1966 by economists in the U. S. Department of Agriculture, assumed a population growth of about 1.5 percent annually and an increase of about 2.3 percent annually in per capita disposable in-

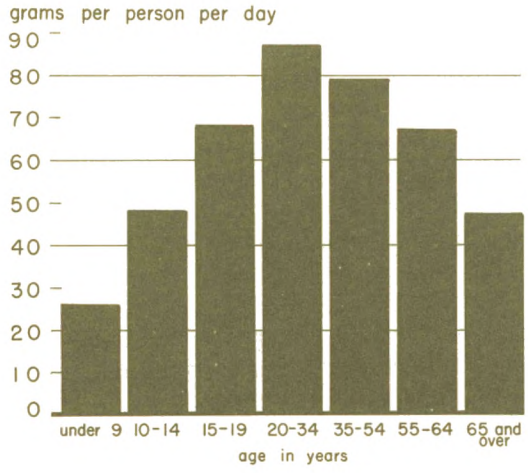
come. On this basis, they estimated beef consumption in 1980 at 117 pounds per person. Utilizing only slightly different growth rates in income and population, the Organization for Economic Cooperation and Development projected consumption of beef by Americans for 1975 and 1985 to be around 111 and 119 pounds, respectively.

Is it possible?

The number of cattle would need to increase substantially to accommodate even a modest increase in beef consumption per person in the next 10 years or so, probably considerably more than in recent years.

Pasture capacity has always been a substantial factor affecting the number of cattle. Droughts in grazing areas have nearly always preceded declines, and expansions often have been limited by available grazing. Improved management practices have boosted pasture capacity considerably in recent years and the carrying capacity of the nation's pastures will continue to rise in the years ahead. Nevertheless, recent estimates indicate that the capacity of existing grazing land, even with allowance for substantial increases in productivity, will fall below requirements by wide margins in a number of regions unless more land is devoted to this use. According to estimates developed by the National Food Commission, pasture requirements for all animals would total 149 million tons in 1980 if a beef consumption level of 117 pounds per person was attained; about 164 million tons would be required for consumption of 127 pounds of beef per person. Assuming no increase in pasture acreage but a 20 percent increase in productivity, production would fall about 13 million tons short of requirements at the 117 pound consumption level and more than 15 million tons below the needs at the 127 pound consumption level.

Young adults eat most beef



Several factors could substantially alter this outlook. For example, more than 60 million acres of cropland are held out of production under current Government programs and generally are not available for grazing. However, a number of these programs are coming under review. Although proposals are sketchy thus far, from some quarters have come suggestions that idled cropland be utilized for grazing, forest, or recreational uses. That, depending upon the magnitude of the shift in programs, could easily provide pasture capacity far above estimated needs. Moreover, methods permitting economic utilization of aftermath (cornstalks, grain straw, vegetable residue, etc.), to maintain cow-calf herds appear likely to be developed in the next decade, especially if pasture shortages occur.

Although there are great quantities of aftermath with tremendous feed value, most is not utilized because of the relatively high cost of gathering, conditioning, and storing. Some Midwest farmers, however, have been able recently to utilize corn-aftermath profitably in cow-calf operations. Harvested corn

aftermath from experimental plots at Iowa State University has yielded 4.4 tons (50 percent dry matter) per acre. That would carry about one cow per acre. Should these methods prove generally economical, the number of cattle produced on Midwest farms could increase greatly.

In addition, substantial gains appear likely from the development of more efficient animals. During the past decade beef production per animal on farms has increased about a fifth. Most of this increase, however, has been the result of changes in feeding, especially feeding calves to heavier weights before slaughtering. In the next decade, output per animal may be increased substantially by breeding. Crossbreeding is almost certain to become more widespread with breeders relying heavily on performance-tested herds. Artificial insemination will also be used more widely. A substantial increase in use is likely when estrus synchronization is perfected and makes breeding of large herds in short time periods possible. Possibly the biggest breakthrough in breeding practices in the next decade, however, could be the perfection of multiple calving. Much research is being carried on currently involving the use of hormone injections to stimulate twinning. Reseach at some of the land grant universities shows promising results in this area.

While a large growth in demand for beef is in prospect, it appears there are ample resources available that can be brought into utilization to support the needed production, and added capacity to produce is in the offing because of continued technological progress. Hence, consumers can look forward with confidence that their appetites for beef can be fulfilled and possibly at lower real prices if available resources are fully utilized. The outlook for cattlemen indicates little prospect of a bonanza in profits and capital gains from resources used to produce beef because of the continued expanded demand for their output. Rather, returns to the cattle industry may continue at a level that is similar to the past several years.

BUSINESS CONDITIONS is published monthly by the Federal Reserve Bank of Chicago. H. Woods Bowman is primarily responsible for the article "Trends in the Midwest—population growth concentrated in suburban counties," Joseph G. Kvasnicka for "Special drawing rights," and Roby L. Sloan for "Developments in the cattle industry—continued growth indicated."

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