

**Multinational Enterprises, the Export of Invisibles, and the Changing
Structure of the U.S. Current Account, 1958-84**

by

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There has been considerable concern in recent years over the deterioration of the U.S. trade balance, especially in the area of manufactured goods. The popular view of the growing volume of manufactured imports into the U.S. takes a partial equilibrium approach and raises the specter that soon the U.S. will not be able to compete successfully in any industry at all.

International trade theory, taking a general equilibrium approach, offers a different perspective. Trade theory emphasizes that through the current account a nation imports and exports factor services, both directly, and indirectly through trade in goods. From this point of view the proper question is not, can America compete, but rather has there been any significant change in recent years in U.S. factor trade, looking at all components of the current account. The answer is that there has in fact been considerable change in the last several decades, which can be summed up in the stylized fact that in the 1950s the U.S. was a major net exporter of manufactured goods, while today the U.S. is a major net exporter of services. These changes in the structure of the current account are detailed in Section 1 of the paper.

Most of the exports of services recorded in the U.S. balance of payments statistics fall into the category of net overseas investment income, and hence appear at first glance to be a return to capital. But the lion's share of this investment income is a return to direct foreign investment, i.e., multinational enterprises (MNEs) based in the U.S. In Sections 2 and 3 I demonstrate that there is good reason to believe that much of what is recorded as "investment income" is really a payment for

services provided by the professional/managerial staff of MNEs. This mislabeling is not necessarily the result of deliberate accounting policies of these firms, but rather comes about because it is difficult for these firms to accurately price many of the intangible services that are traded intrafirm.

Through MNEs the U.S. is able to directly export the services of professional/managerial employees; in many cases the same MNEs are importing manufactured goods whose primary foreign value-added comes from semi-skilled production workers. But even where MNEs are not directly involved in importing manufactured goods into the U.S., the growth of their activities changes the general equilibrium and must result in the U.S. importing more of the factor services of semi-skilled labor and other factors. In other words, a growing surplus in the service component of the current account must be matched by a growing deficit in merchandise trade during periods in which the current account is roughly in balance.

The current account of course has been in significant deficit in the U.S. since 1983, tending to exacerbate the merchandise deficit. But even before the current account became negative there was a large merchandise deficit balanced by a surplus in services.

From this point of view the significant change that is going on is not the much ballyhooed decline of the manufacturing sector as the result of imports, but rather the decline of production worker employment in manufacturing and the relative increase in professional/managerial employment in manufacturing as a result of the

growth in multinational activities of U.S.-based manufacturing firms. Section 4 presents data on the occupational distribution of employment in manufacturing which give considerable support to this hypothesis. The share of production workers in manufacturing employment has been decreasing at an increasing rate since the early 1960s. The share of professional/managerial employees in manufacturing, on the other hand, has been rising rapidly.

1. Changes in the Structure of the Current Account Since 1958

In the last 27 years there has been considerable structural change in the current account of the United States. Table 1 divides the period 1958-82 into five equal subperiods and presents annual averages for selected items in the current account; all figures have been converted into 1984 dollars via the GNP implicit price deflator. It is useful to look at the two years 1983-84 as a separate period because the current account imbalance during those years is unprecedented in the post-war era.

A. The Period 1958-82

Leaving aside the last two years for the moment, we see that there is no strong secular trend in the overall balance in goods and services. It is positive on average for each five-year period and does decline somewhat over the 25 years from 1958 to 1982. This overall stability, however, masks a number of important and counteracting trends.

Table 1

U.S. Net Exports of Goods and Services

(annual averages in billions of 1984 dollars)

	<u>Net Exports of Merchandise</u>		<u>Investment Income</u>		<u>Other Services Net</u>	<u>Balance on Goods and Services</u>
	<u>Manuf Goods</u>	<u>Total</u>	<u>Gross</u>	<u>Net</u>		
1958-62	18.1	11.6	--	9.8	-3.4	10.7
1963-67	17.8	14.7	--	15.3	-2.5	19.1
1968-72	3.6	-2.0	32.2 ^a	14.0	4.7	3.7
1973-77	14.4	-11.5	49.1	26.8	7.8	16.6
1978-82	5.9	-38.1	86.1	35.6	8.6	2.4
1983-84	-55.3	-85.4	83.8	21.3	9.2	-62.3

^a Average for 1971-72; data on gross investment income not available before 1971.

For the ten years 1958-67 the U.S. was a strong net exporter of manufactured goods. The balance remains positive but drops precipitously in 1968-72, then bounces back in 1973-77. This volatility is related in part to the currency crisis in the former period, during which time the dollar was overvalued, and also to the sharp devaluation of the dollar in the latter period. For the ten years 1968-77 net exports of manufactures averaged about one-half the real level of the previous decade.

In the 1978-82 period real net exports of manufactured goods declined further, to an annual average about one-third the level of the 1958-67 period. Despite the performance of 1973-77, therefore, there does seem to be a clear downward trend in net exports of manufactured goods.

The balance in all merchandise trade (including manufactures) declines sharply over the 25 years, from a surplus of \$11.6 billion (1958-62) to a deficit of \$38.1 billion (1978-82). This is owing partly to the abovementioned decline in net exports of manufactured goods; but the most significant factor contributing to this trend is the increase over the period in the relative price of oil, leading to a very large U.S. deficit in net exports of crude materials and fuels.

Net investment income is a positive item throughout the 25 years, and it increases very substantially from \$9.8 billion per year in 1958-62 to \$35.6 billion per year in 1978-82. Also included in the

table is gross receipts of investment income--only available for 1971-84--which not surprisingly also show a marked upward trend.

Finally, there is other services net, which among other things includes banking, telecommunications, business consulting, and fees and royalties on technology licensed abroad. Other services moves from a small deficit to a substantial surplus of \$8.6 billion in the 1978-82 period.

B. The Period 1983-84

The last few years have been distinctive in that the overall deficit in goods and services has been extraordinarily large. The average balance on goods and services for 1983-84 is \$65 billion lower than the average for the preceding five years. Almost all of this decline is reflected in the decline in net exports of manufactured goods, which drop about \$60 billion from an average surplus of \$5.9 billion in 1978-82 to an average deficit of \$55.3 billion in the last two years. The other components of merchandise trade actually experience a net increase, going from an average deficit of about \$40 billion per year in 1978-82 to an average deficit of \$30 billion per year in 1983-84.

Gross receipts of investment income remain fairly stable compared to the previous five years; net receipts decline somewhat, reflecting the inflow in this period of foreign portfolio investment (counterpart to the large U.S. current account deficit). Other services show a modest increase over the average for the previous five years.

2. The Effect of Multinational Enterprises on the Structure of the Current Account

Contemporary with the changes in the current account outlined in the previous section has been the rapid growth in the multinational activities of U.S. firms. As a result of the steady outflow of U.S. direct foreign investment, the stock of foreign capital managed by U.S. MNEs has grown at a rate of 9 percent per year since the 1950s and by 1983 had reached a level of \$226 billion.

A. Origins of the MNE

The multinational enterprise represents a very special kind of foreign investment that affects the current account in complicated ways. When a U.S. firm sets up a foreign subsidiary there is generally an outflow of capital, as with foreign portfolio investment; but that is not the end of the story since the subsidiary will be permanently receiving a stream of services from the parent firm, categorized by Vernon (1972, p. 69) as "access to the parents' store of technical skills, to the parents' organizational apparatus for search, and to the markets provided by the parents' downstream subsidiaries."

A useful way to think of direct foreign investment then is as a bundle of capital, technology, and managerial and marketing skills and services. To understand the effect of MNEs on the current account it is necessary to understand why it has proved efficient to package these different factors of production in a bundle. Theoretically, a U.S. firm could sell managerial and marketing services to a foreign firm that it does not own. (There are of course examples of this kind of

transaction, but they remain trivial in scope compared to the extent of direct foreign investment.) Apparently there are problems in marketing these services outside of the firm.

Caves (1971) has distinguished between two main types of direct foreign investment: "vertical," which involves backward integration into raw materials, and "horizontal," which is associated with product differentiation. While this is a useful taxonomy for some purposes, it is important to realize that the horizontal investment generally involves *vertical integration forward* from the point of view of the parent company.

An example of this kind of horizontal investment would be a U.S. firm setting up a plant in Europe to produce its specific differentiated brands and to market them in Europe. Often such a plant will purchase material inputs from the U.S. parent, in which case the vertical integration aspect is obvious. But even in the extreme case where the plant purchases no material inputs or direct managerial services from the parent, it nevertheless receives *intangible inputs*--technology of production and services of the firm's brand name capital. All of the research, product development, and advertising activities of the parent are intermediate inputs; consequently any use of them overseas represents vertical integration forward.¹

The reason why it is useful to think of all MNEs as vertical integration--either backward or forward--is that we have good theories to explain why it is often efficient to make vertical transactions intrafirm rather than interfirm. In particular the Klein, Crawford,

Alchian (1978) concept of "appropriable quasi rents," drawing on earlier work on the theory of the firm by Coase (1937) and Williamson (1971), goes a long way to explain the existence of MNEs. Or more accurately, if international differences in factor prices (or tax or tariff incentives) make it efficient to divide up the production process for a particular good internationally, then the appropriable rents approach to the theory of the firm can explain why many of the resulting vertical transactions will take place intrafirm.

In the case of the example mentioned above, the argument is that the European plant as an independent firm is vulnerable to opportunistic behavior of the U.S. firm. Once built, the plant is capital tied to a very specific use; any excess of the value of the plant in this specific use over its salvage value is a quasi rent that is potentially appropriable by the U.S. firm. The appropriable rent (and hence the incentive to vertically integrate) becomes greater as the plant becomes more specialized to the operation of the U.S. firm. Another way to view the problem is that, once the capital is sunk in the European plant, it is a factor of production for whose services the market is extremely thin, providing market power to at least one of the parties.

It is possible, though often difficult, to deal with the threat of opportunistic behavior through a long-term contract. Klein, Crawford, Alchian argue that vertical integration will prevail whenever the costs of specifying and enforcing a long-term contract exceed the additional administrative costs of integration.²

The contracting problem is especially large when it comes to the stream of *intangible* benefits that a subsidiary generally receives from its parent firm; these benefits or services consist primarily of different kinds of information that the subsidiary receives from the parent. For instance, the U.S. firm may invent or through its worldwide operations become aware of a new production process for the operation performed in the foreign plant. Or the U.S. firm may discover an export opportunity for the foreign plant. Presumably one of the advantages that large U.S. MNEs have is superior access to information as a result of their farflung activities. Other research [Caves (1982), Vernon (1971)] has shown that MNEs are most common in industries that have relatively high levels of expenditure for research and development and advertising, and in which consequently such intangible assets as information and reputation are significant.

Theoretically, the U.S. firm could sell some of this information to the foreign plant if the latter is not directly owned; but there are inherent problems in selling something like knowledge of a new production process: if the U.S. firm in the course of negotiations gives a specific account of the process, then it no longer has any secret to sell; if it does not give specific details, on the other hand, the foreign plant has no good basis on which to determine the value of the information. (A different way to look at the problem is that it is hard to price something that is impossible to measure.)

Another possibility would be for the U.S. firm to sell the nonowned plant a commitment to provide it with information as if it were a

subsidiary. There are obvious enforcement problems with this kind of contract: How does the plant know if it is really getting all the proprietary information that would be of use to it? What is the incentive for the U.S. firm to rigorously explore all possible benefits for the plant? And again there is the issue of determining the value of this kind of contract. The problem is that the market for the very specific services that the U.S. firm is able to provide to a particular plant is very thin, and hence it is difficult and costly to determine the fair market value of the services. There is also the issue of uncertainty: what services will eventually be provided is unknowable in advance.

All of these problems are avoided of course if the plant is wholly owned by the U.S. firm. The parent firm can then provide a stream of factor services--services of capital, technical labor, and managerial labor--and neither side need be concerned about determining the fair market value of each service independently.

So we can view the MNE as a vehicle through which certain factor services are directly traded internationally in a package. The same factor services are also traded internationally *indirectly* through trade in goods; but presumably trade in goods alone has not been sufficient to produce factor-price equalization, or else there would have been little incentive for the growth of MNEs.

B. The Steady Growth of MNEs

As noted, since the end of World War Two the stock of foreign capital managed by U.S. MNEs has grown steadily--and at a rate considerably greater than the rate of growth of the capital stock in the U.S. The argument set out above explains the existence of MNEs but not this steady growth.

The likely explanation of the growing relative importance of MNEs is changes in factor supplies in the U.S. and in the rest of the world. A simple way to look at this issue is in terms of the U.S. supply of and demand for white-collar (professional/managerial/clerical) labor relative to blue-collar (semi-skilled production) labor drawn in Figure 1. As the wage of white-collar labor relative to the wage of production worker labor falls, *ceteris paribus*, the optimum level of MNE activity increases and demand for white-collar labor relative to production worker labor expands as well.

With instantaneous adjustment, at a point in time the level of multinational activity depends on the intersection of the demand and supply curves in Figure 1. Growth over time in the level of multinational activity could then be the result of the supply curve of white-collar relative to blue-collar labor shifting to the right as a result of changes in preferences, demographics, or the costs of acquiring different kinds of skills.

Alternatively, growth in multinational activity could be the result of the demand curve shifting to the right owing to changes in factor

supplies elsewhere in the world: anything that makes overseas assembly more attractive to U.S. firms (expansion of foreign infrastructure or growth in the foreign semi-skilled labor pool) should increase demand for white-collar labor relative to blue-collar labor in the U.S. at each relative factor price.

Either curve shifting to the right represents an increase in multinational activity and an increase in the white-collar share of employment--but the shifts obviously have different effects on relative earnings, which may provide a basis for distinguishing empirically between the different explanations.

It should also be noted that the rate of growth of the overseas capital stock managed by U.S. manufacturing MNEs has been remarkably constant since 1950. Regressing the logarithm of this stock on time yields an annual rate of growth of 10.2 percent with an adjusted R^2 of .996. This suggests that, while factor supply changes may be increasing the optimum level of this stock, the adjustment is not taking place instantaneously, but rather is occurring at a steady rate over time (perhaps because of increasing marginal adjustment costs at a point in time). From this point of view there is an optimum stock associated with the intersection of the supply and demand curves in Figure 1, and the actual stock is adjusting over time to this level.

Case studies of individual industries and individual firms provide casual support for this notion, often giving the impression that there are no strong *static* determinants of the level of MNE activity. The process of multinationalization has a random and historical character to

it. Over long periods of time, however, it seems likely that relative factor supplies exert considerable influence on the growth of MNEs.

So we can think of a short-run demand curve for white-collar relative to blue-collar labor that depends on the momentary level of MNE activity, which is not strongly determined. In the long run, on the other hand, it is probably more accurate to think of the degree of multinationalization as endogenous.

Whatever the source of the expansion of MNEs, it remains true that, other things being equal, the growth of multinational activities of U.S. firms represents a change in the general equilibrium--with increased U.S. exports of the services of capital and professional/managerial labor and increased U.S. imports of the services of semi-skilled labor.

3. MNEs and Balance of Payments Accounting

If these effects of the activities of MNEs on the international transactions of the U.S. are significant, then they should be observable in the balance of payments data. Table 1, as noted, reflects a downward trend in U.S. net exports of manufactured goods and an upward trend in U.S. net exports of services--both investment income and other services. The "other services" category, theoretically, should capture the intrafirm export of invisibles that we have identified as a key element of multinational corporate activities. The factor content of this category should consist primarily of the kinds of labor prevalent in corporate headquarters activity--managerial professionals, scientific

and technical labor associated with research and development, and clerical labor.

While exports in this category of other services increase over the 27-year period covered in Table 1, the level reached in the recent period--net exports of \$9.2 billion per year--is disappointingly small given the apparent importance of MNEs. The increase in gross receipts of investment income--most of which comes from direct foreign investment--is much more dramatic, reaching a level of \$83.8 billion per year.

As argued in the last section, the activities of MNEs can usefully be thought of as the export of different factor services packaged in a bundle. Theoretically, the return to the capital in this bundle should be reported in the investment income category, while the return to other factors of production in this bundle should be reported in the other services category. Some effort is made to do this in practice; fees and royalties charged by U.S. parent firms to their foreign subsidiaries, for instance, are included in this category.

For the overall division between earnings of capital and earnings of other factors of production involved in MNEs to be accurate, however, requires that U.S. parent firms be charging their foreign subsidiaries a fair market price for all of the benefits that the subsidiary receives from the parent: being part of a worldwide production and marketing network managed out of the U.S., access to technology and trademarks, etc. *MNEs have developed as an efficient organizational form, however, specifically because it is difficult to price these intangible benefits.*

It is thus truly impossible for the MNE itself to ascribe its revenue from foreign operations to the different domestic factors of production that have contributed to those operations.

Note that this argument is distinct from the issue of "transfer pricing," which is concerned with the ability of the MNE to manipulate intrafirm "prices" for both tangible and intangible inputs in order to minimize its worldwide taxes. Even if all tax incentives for transfer pricing were eliminated, the firm itself still would not be able to determine a fair market price for many of the intangible services that are being exchanged intrafirm.

Unable to accurately price the services exported by the firm headquarters, it is easiest for the firm to simply not price them and report all foreign revenue as earnings on overseas investment. (In many cases this will also be the tax-minimizing transfer price since it inflates the accounting profits of the foreign subsidiary and deflates the accounting profits of the U.S. operations.) Thus there is good reason to expect that much of what is counted as return to capital deployed overseas is really a return for services supplied by the MNE headquarters staff.

Studies of the MNE have revealed this accounting problem. Vernon (1972, p. 192) speaks of "the principle that the operations of the individual subsidiaries of multinational enterprises are inescapably interrelated and that the assignment of the profits to each unavoidably involves large elements of the arbitrary." And Caves (1971, p. 14) notes "the common practice of transferring the implicit rents from the

use of trademarks, technical know-how and the like in the form of profits rather than service charges."³

The point is not trivial because it concerns what factors of production are experiencing significant increases in the demand for their services as a result of multinational corporate activities. The balance of payments statistics as reported suggest that direct foreign investment primarily provides a return to owners of capital and that the additional demand generated by MNEs for the labor of U.S. managers, scientists, etc. is small. My creative interpretation of the service components of the current account, on the other hand, suggests that the export of the services of this kind of labor may be seriously underreported.

4. Trends in Manufacturing Employment and Earnings

If in fact growth in the multinational activities of U.S. firms has significantly altered the relative demand for different factors of production, then this change in demand should be evident in trends in manufacturing employment and also in occupational earnings.

A. Manufacturing Employment

The main effect of the growth of MNEs on employment does not concern overall manufacturing employment or the share of the labor force in manufacturing. The argument set out above is that multinational activities tend to substitute professional/managerial and clerical jobs for production worker jobs within the U.S. manufacturing sector.

This change in demand for different kinds of labor should be reflected in occupational trends within the manufacturing sector.

Figure 2 plots the combined share of professional and managerial workers in manufacturing over the period 1966-82; this share increases from 15 to 21 percent over the period. Figure 3 shows all white-collar labor in manufacturing relative to production workers over a longer period, 1961-83, during which time this ratio increases from .34 to .47. These are quite significant changes when imposed on a base of 18.5 million total manufacturing employees in 1983.

Many things are obviously not held constant over such a long period; and it could be argued that improvements in production worker productivity relative to professional/managerial productivity (owing, say, to technological innovation or capital accumulation) can account for this trend. The problem with that explanation is that the ratio of white-collar to production worker labor in manufacturing has been increasing at an *increasing* rate, as indicated in Figure 4, which plots the natural logarithm of this ratio.

The trend in production worker productivity, however, suggests exactly the opposite pattern. If we arbitrarily divide the period 1961-83 in half, for instance, we get the following continuous rates of change:

Table 2

Continuous Rates of Change Per Annum

	<u>1961-72</u>	<u>1972-83</u>
Ratio of white-collar to production worker labor in manufacturing	0.8%	2.0%
Production worker productivity in manufacturing	3.8%	2.6%
Implied rate of growth of white-collar productivity ignoring MNEs	3.0%	0.6%

Growth in the ratio of white-collar to production worker labor accelerates while production worker productivity growth slows down. If both kinds of labor are only involved in producing domestic output, then it follows tautologically that

$$(1) \quad \hat{r} = \hat{pwprod} - \hat{wcprod}$$

where r is the ratio of white-collar to production worker labor in manufacturing, $pwprod$ is the level of production worker productivity, $wcprod$ is the level of white-collar productivity, and " $\hat{}$ " denotes relative rate of change. Equation (1) can only account for the trend in Figure 3 if there has been a sharp dropoff in the rate of growth of white-collar productivity, from 3 percent per year to 0.6 percent per year, which does not seem very plausible.

The trends in Figures 2 and 3 do make sense, however, if we consider that throughout this period the U.S. manufacturing sector has been shifting more and more to exporting the services of professional/managerial labor. The flow of white-collar labor services exported through U.S. manufacturing MNEs should be related to

the stock of foreign capital managed by those firms; as noted, this stock has been growing at a steady rate of 10 percent per year since the end of World War Two. In other words, in a relative sense U.S. professional/managerial labor is increasingly involved in managing foreign production rather than production within the confines of the U.S.

B. Trends in Relative Factor Prices

Expansion of MNE activity should also affect relative factor prices in the U.S., though unionization in the manufacturing sector may mute this effect or at least delay it.

Figure 5 plots an index of average hourly earnings for manufacturing production workers deflated by the CPI-W. This measure of real earnings rises fairly steadily from 1958 until 1969. The pattern since then has been more volatile; the index declines during the 1974-75 recession, climbs to a historical peak in 1978, and since then has fallen back close to its level in 1971.

This plot alone does not indicate anything about relative factor prices; lacking any single index of professional/managerial earnings, the best that can be done is to compare average earnings of production workers with selected professional/managerial occupations. Figures 6, 7, and 8 show the trends since 1960 in average earnings of production workers relative to the earnings of top level lawyers, top level engineers, and middle level chemists.⁴

The three plots show a certain similarity; in each case there is an upward trend peaking in 1977, after which the relative earnings of production workers fall back to their level of the mid-1960s. The increase through 1977 is consistent with the argument that growth in MNE activity is the result of an outward shift in the relative supply of white-collar labor in the U.S. This shift depresses the earnings of such labor relative to earnings of blue-collar workers (as in the figures), and these changes in relative factor prices lead to an expansion of multinational activity.

The steady decline in the relative earnings of production workers since 1977, on the other hand, suggests that in recent years growth in MNE activity may have been driven by factor supply changes elsewhere in the world making overseas assembly more attractive to U.S. firms. This corresponds to the demand curve in Figure 1 shifting to the right and reducing production worker income relative to white-collar income.

It is also possible to turn the causality around and argue that through unions U.S. production workers were able to improve their relative standing up through the mid-1970s, but that eventually this relative factor price change encouraged increased MNE activity, reducing demand for production workers and (perhaps with a lag) their relative earnings.

5. Conclusions

This paper has indirectly addressed the question of whether the U.S. manufacturing sector is in decline as a result of competition from

imports. What the balance of payments data show is that U.S. net exports of manufactured goods have been declining since the 1950s, but have only become negative in the last few years, a period in which the U.S. has had a large current account deficit.

Even before the current account swung into deficit, however, there had been some significant changes in U.S. imports and exports of factor services implicit in the current account. In the 1950s and into the 1960s the U.S. was a major net exporter of manufactured goods, and presumably a net exporter of the services of manufacturing production worker labor (along with other factors of course). In recent years, on the other hand, the U.S. has been a major net exporter of services and a net importer of goods. This trend is really much more important than the recent current account deficit since, unlike the current account deficit, it can be expected to persist.

Taken at face value the balance of payments data suggest that the main service being exported by the U.S. is capital services, since the largest component of the service account surplus is net overseas investment income. However, there is good theoretical reason to believe that hidden in this "investment income" are considerable payments to other factors of production; in particular, most MNEs transfer home as "profits" what are really payments for services of the professional/managerial staff operating out of the firms' headquarters. Their activities in research and development, advertising, marketing, and managing lead to a stream of invisible exports that are difficult for the firm to price; it is for this reason that is efficient to make

these exchanges intrafirm (providing a rationale for the MNE); and for the same reason it is difficult to capture this factor trade in the balance of payments statistics.

Thus, as MNEs expand, the U.S. more and more is importing (indirectly in manufactured goods) the services of manufacturing production workers and exporting (through the activities of MNEs) the services of professional/managerial labor. Hence it is not the manufacturing sector as a whole that is declining, but rather production worker employment in manufacturing. This is especially clear if one looks simply at the absolute number of professional/managerial/clerical employees in manufacturing, plotted in Figure 9.. The employment growth for these white-collar manufacturing occupations is very strong throughout the 1970s, and it is apparent that the sector as a whole is not on its way out.⁵

Instead of the decline of the U.S. manufacturing sector what we have is its international restructuring. The changes are controversial politically because they are altering the structure of employment and the distribution of income in the U.S.

The large current account deficits of recent years that have received so much attention are likely to affect this restructuring in complicated ways. As noted before, most of the decline in the current account balance in 1983-84 is reflected in net exports of manufactured goods; while a current account deficit of this magnitude cannot persist forever, it does increase the incentive to move production facilities

overseas as long as it lasts. In this sense it accelerates the trend that was occurring more slowly in the previous period.

If the static determinants of the level of multinational activity are in fact weak, then several years of large current account deficits may have a lasting impact: some U.S. firms respond to the increased flow of imports by expanding multinational activity, but do not readjust when current account balance is restored.

On the other hand, the counterpart to the current account deficit is the net accumulation of U.S. assets on the part of foreigners; the interest payments on these assets will be negative items in the service component of the current account in the future, and these may slow the upward trend in U.S. net exports of services.

It remains to be seen which of these influences proves to be stronger; it seems hard to believe, though, that production worker employment will make much of a comeback even after the current account deficit is eliminated.

Notes

¹ See Helpman (1984) and Krugman (1985) for formal models of international trade with multinational enterprises that feature this export of the services of intangible assets.

² In the case of international as opposed to intranational vertical transactions, it seems likely that costs of administering the transactions internally (integration) would be greater. But costs of specifying and enforcing contracts are also certainly greater when dealing with international transactions. A good argument can be made that the international nature of a particular vertical transaction increases contracting costs more than administrative costs and consequently makes integration a more likely outcome.

³ Some of the benefits received from the parent firm by foreign subsidiaries correspond to current services performed by the headquarters staff. As noted, though, some of the benefits arise from the use of intangible assets which while created originally by the professional staff are currently property of the firm. The question remains then what factor of production receives the implicit rents from these assets. No doubt owners of the firm receive some of the rents--and to this extent it is appropriate to record this income as earnings on foreign investment. It seems very likely, however, that much of the rent will be captured by the ongoing professional staff, in whom collectively many of the intangible assets reside.

⁴ Scatter plots relating manufacturing production worker earnings to earnings of other professional/managerial occupations do not differ significantly from the three presented.

⁵ Lipsey and Kravis (1985, p. 1) reach a similar conclusion, finding that "while the share of the U.S. in world exports of manufactures fell more than 40 per cent between 1957 and 1977, the share of all U.S. firms from all locations declined much less and the share of U.S. multinational enterprises increased." In other words, U.S. manufacturing firms remain competitive, but are choosing to do more and more of their production outside of the U.S.

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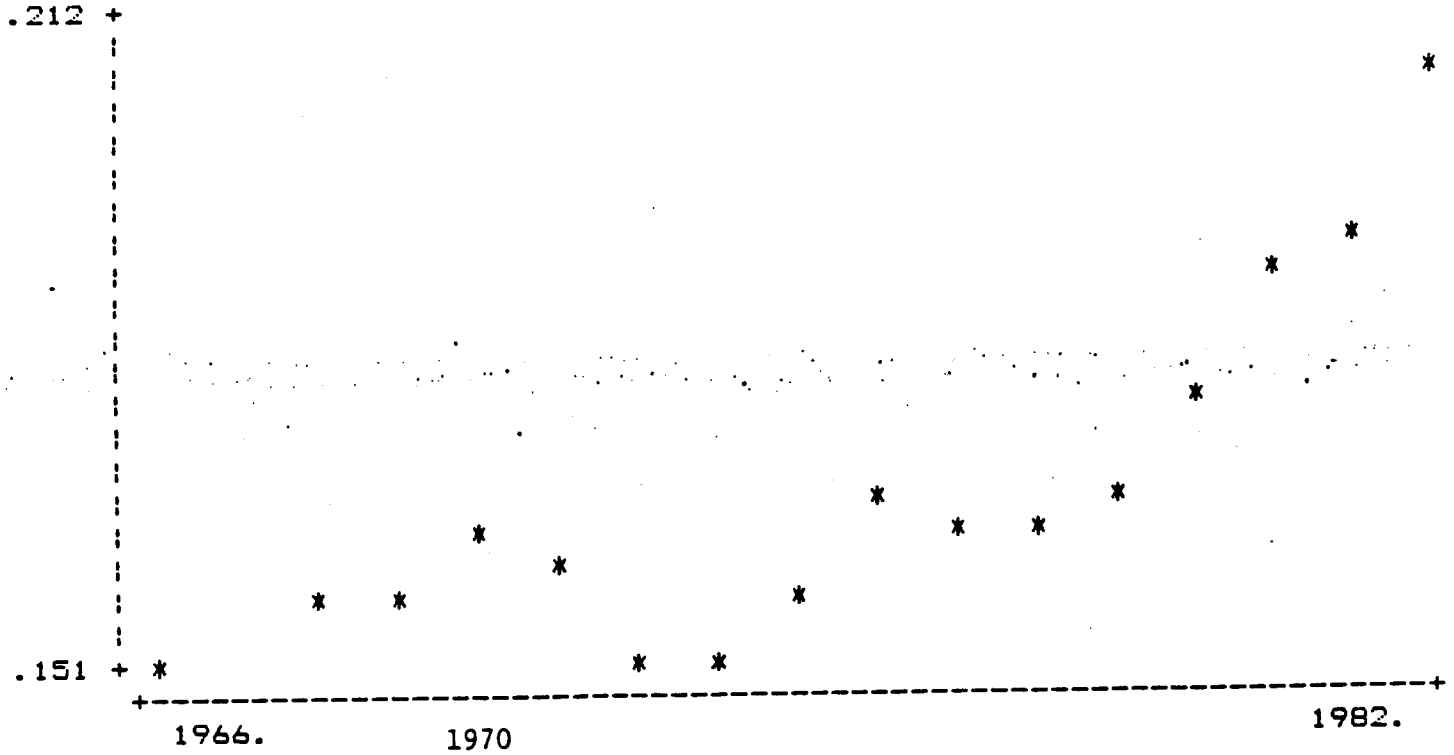
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Failure Considerations," *American Economic Review*, May 1971.

Figure 1



Figure 2

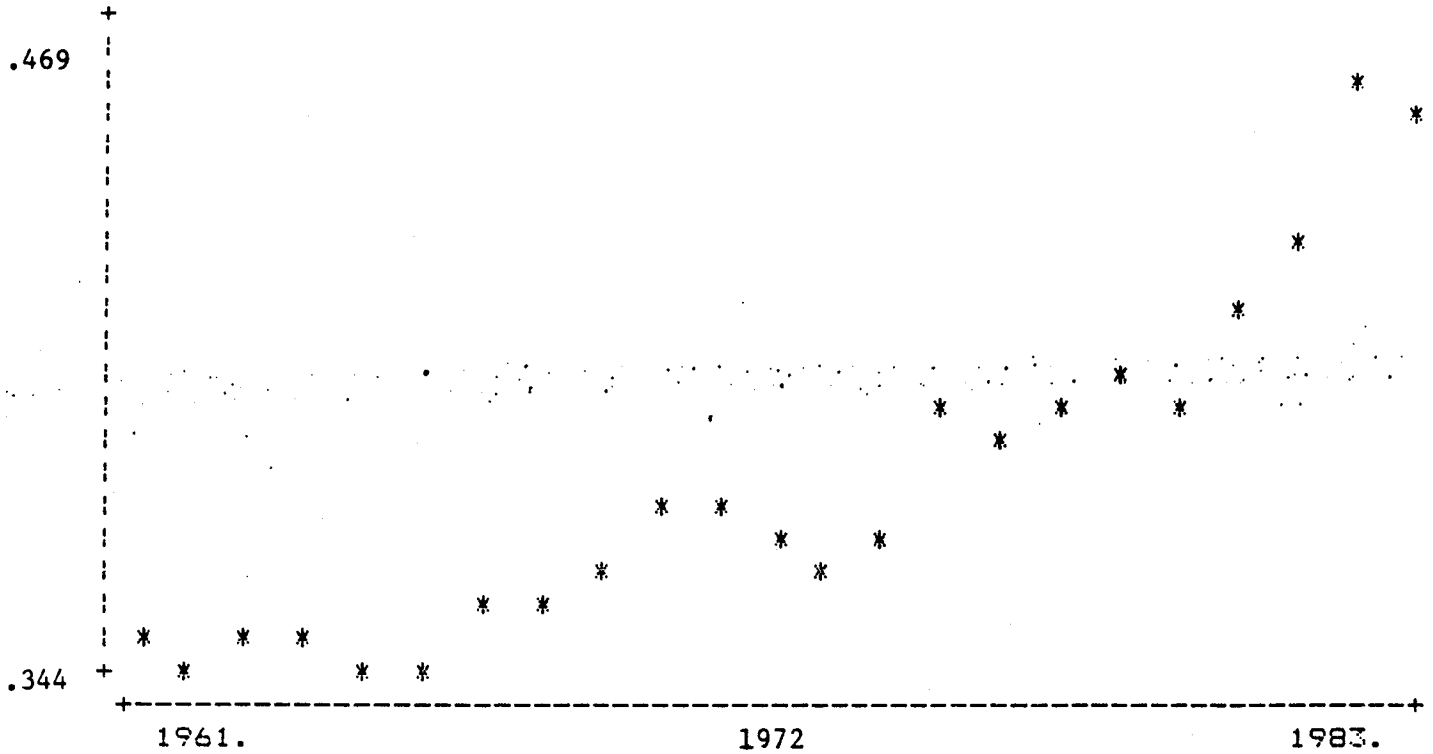
Professional/Managerial Employees as a Share of Total
Manufacturing Employment in the U.S., 1966-82



Source: Bureau of Labor Statistics, *National Survey of Professional, Administrative, and Technical Pay*. Series begins 1966.

Figure 3

White-Collar Employees Relative to Production Workers in
U.S. Manufacturing Industries, 1961-83



Source: Bureau of Labor Statistics, *Employment and Earnings*.

Note: White-collar employees are defined as all non-production workers in manufacturing.

Figure 4

White-Collar Employees Relative to Production Workers in
U.S. Manufacturing Industries, 1961-83

(log scale)

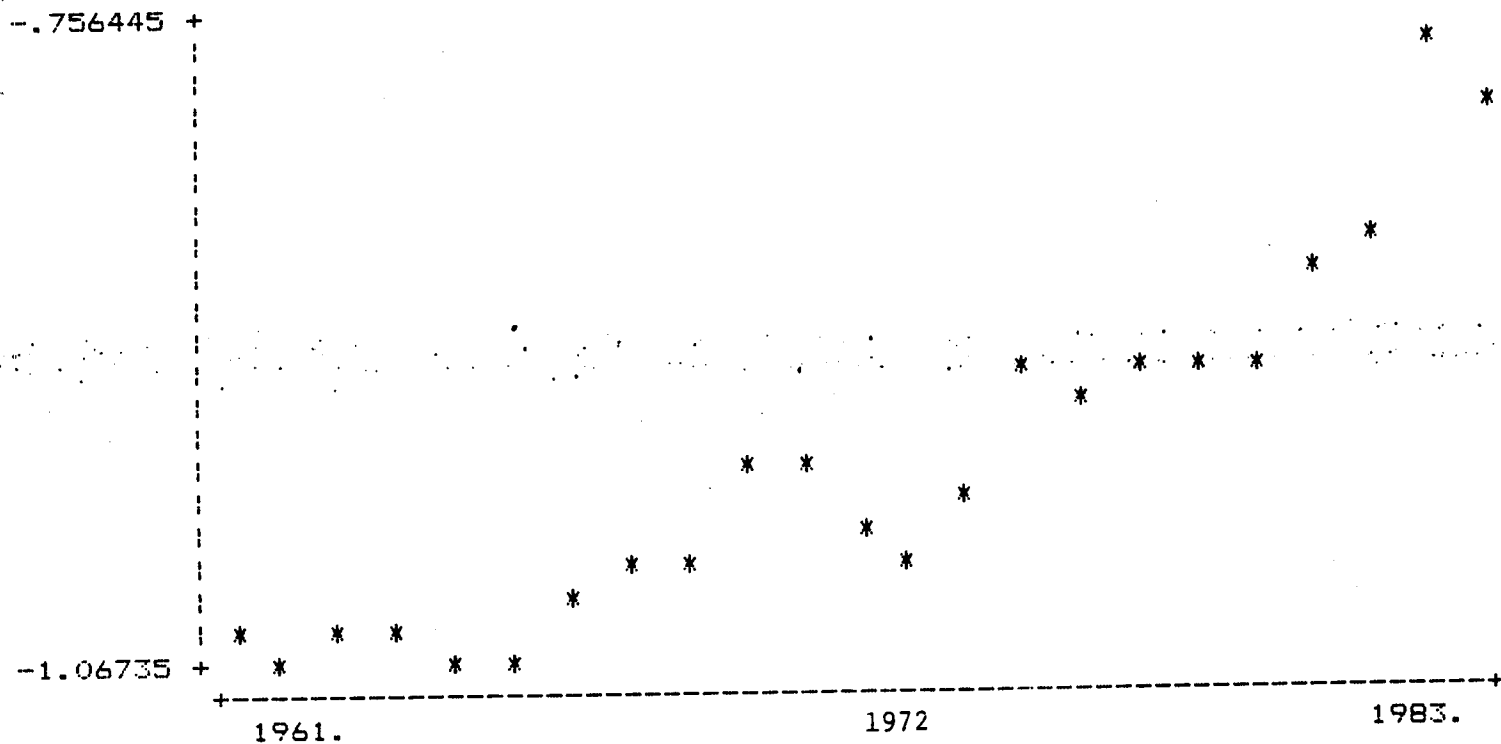
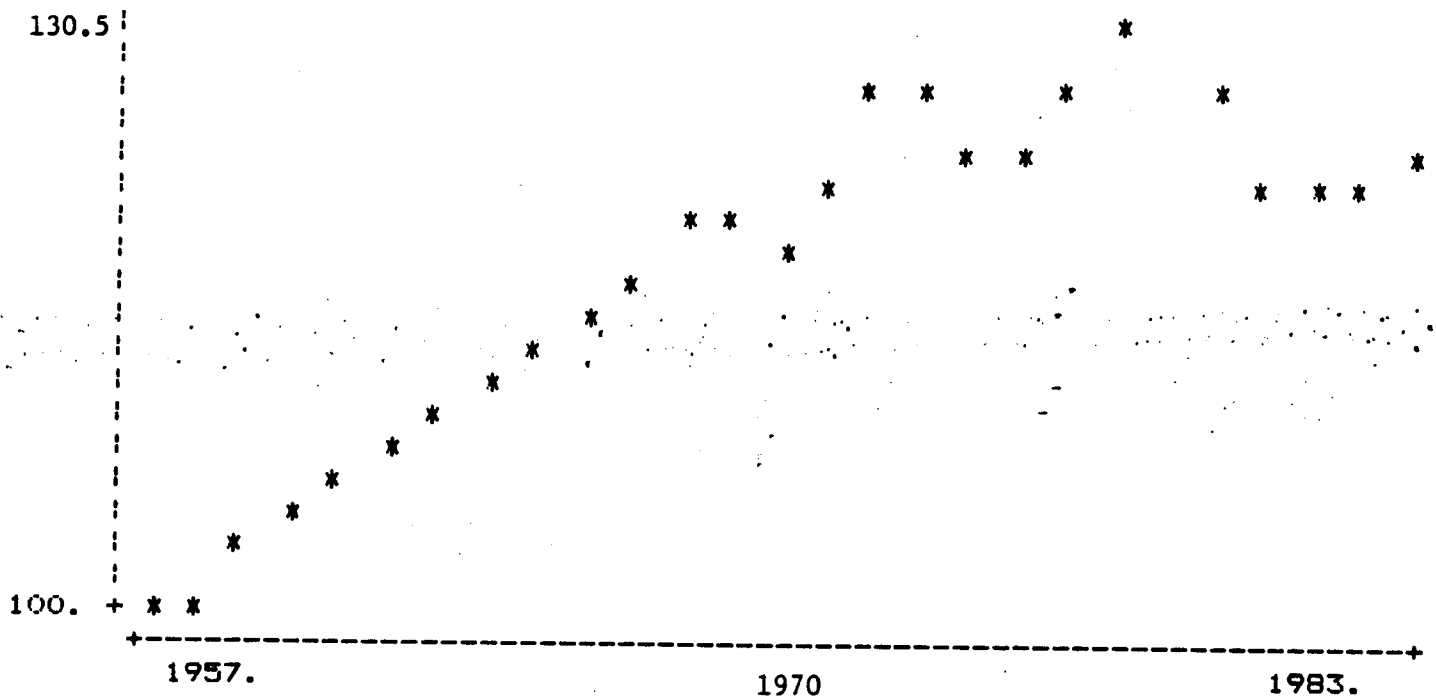


Figure 5

Index of Real Average Hourly Earnings of Production Workers in
U.S. Manufacturing, 1957-83

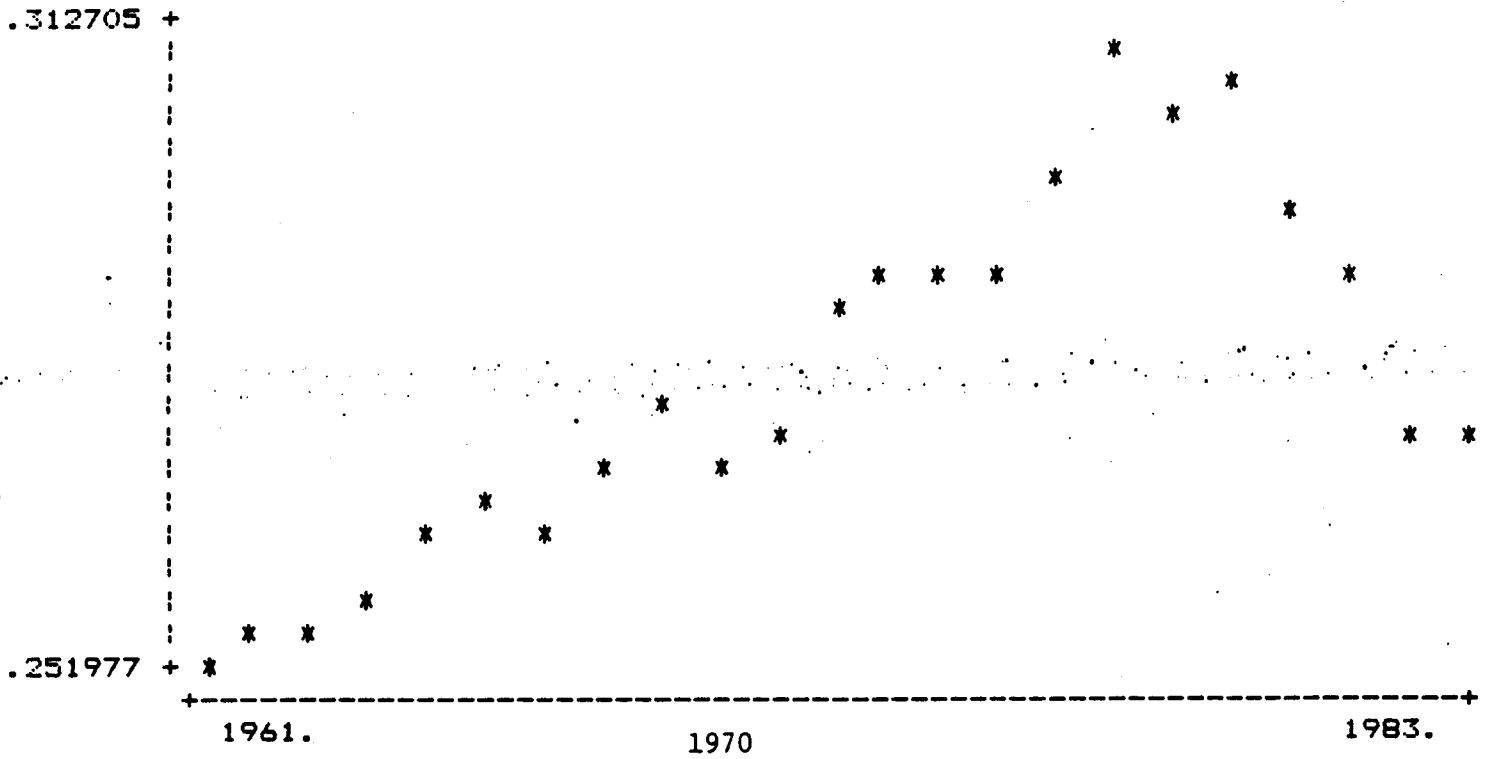
(1957=100)



Source: Bureau of Labor Statistics, *Employment and Earnings* and CPI-W.

Figure 6

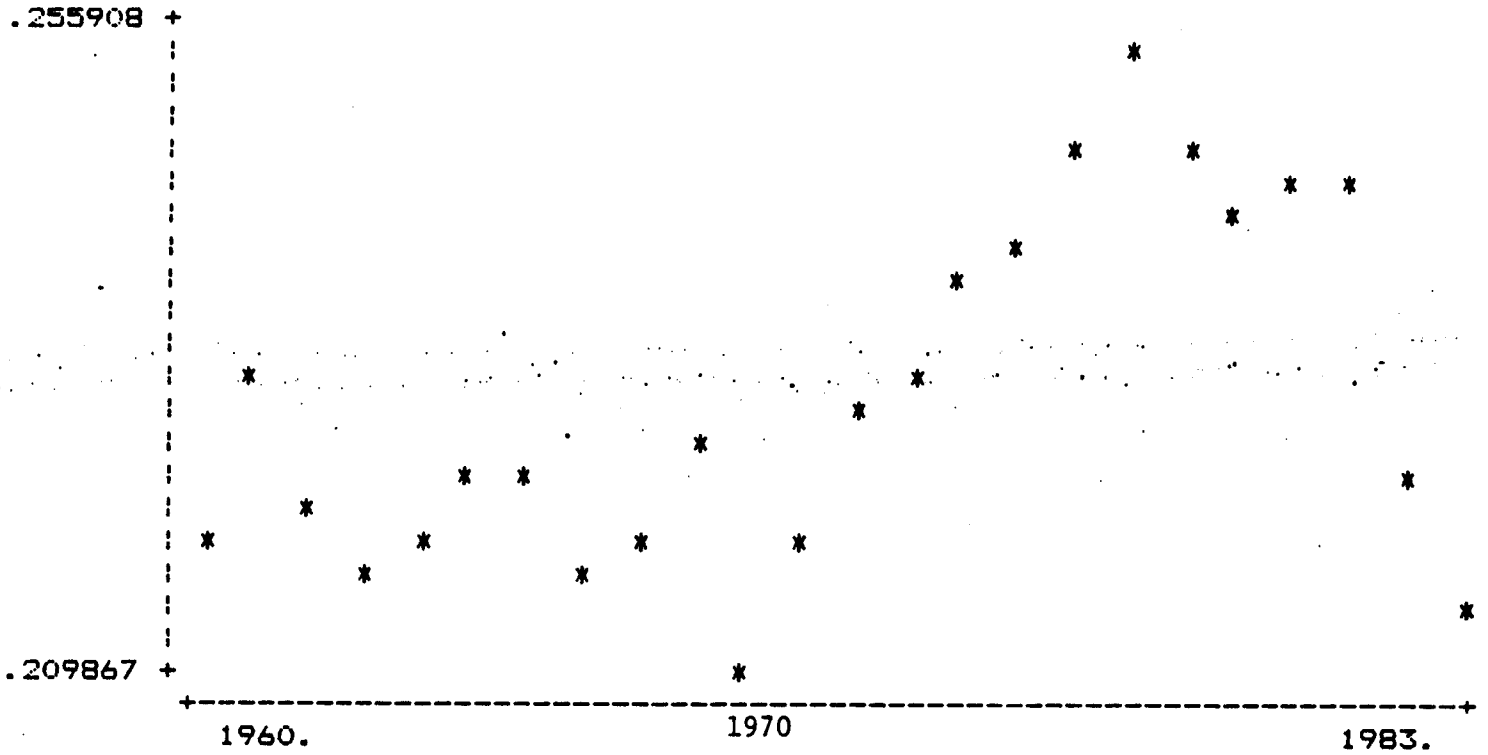
Average Monthly Earnings of Manufacturing Production Workers
Relative to Engineers in the U.S., 1961-83



Source: Bureau of Labor Statistics, *Employment and Earnings*.

Figure 7

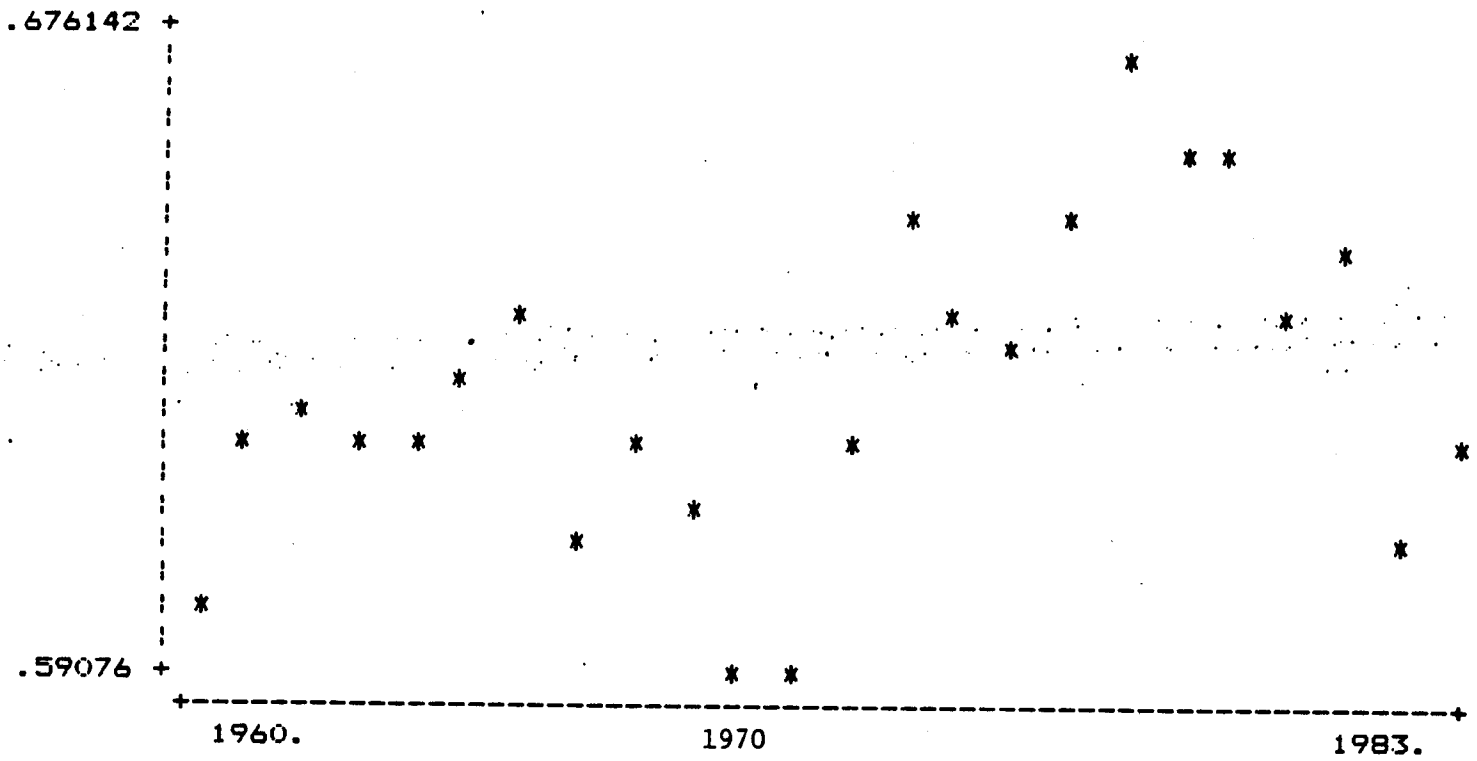
Average Monthly Earnings of Manufacturing Production Workers
Relative to Lawyers in the U.S., 1960-83



Source: Bureau of Labor Statistics, *Employment and Earnings*.

Figure 8

Average Monthly Earnings of Manufacturing Production Workers
Relative to Chemists in the U.S., 1960-83

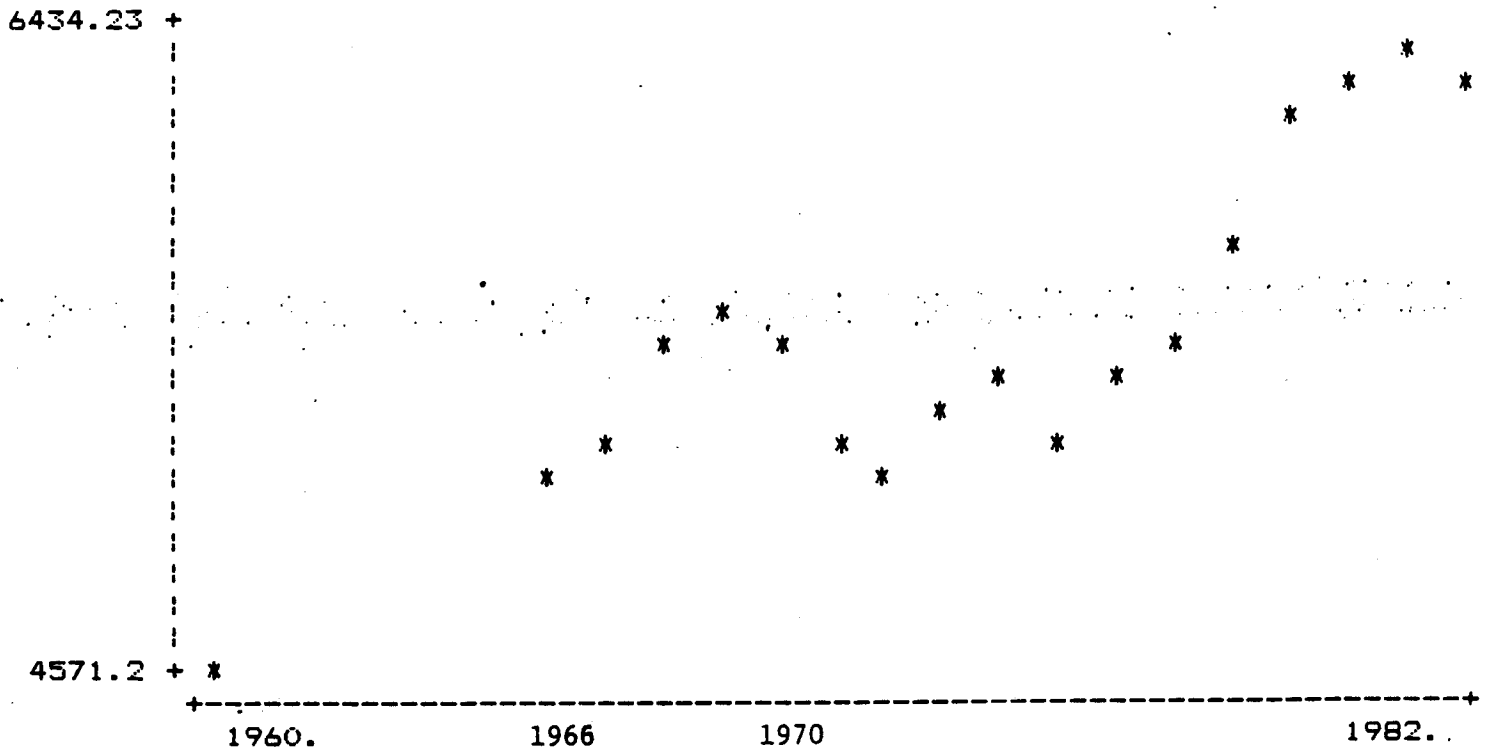


Source: Bureau of Labor Statistics, *Employment and Earnings*.

Figure 9

Professional/Managerial and Clerical Employees in
U.S. Manufacturing, 1960-1982

(in thousands)



Source: Bureau of Labor Statistics, *National Survey of Professional, Administrative, and Technical Pay*. Annual series begins 1966.