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PRICE LEVELS

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ABSTRACT

The purpose of this paper was to investigate whether there is a relationship between the degree of wage dispersion in a country and its price level relative to other countries, compared in a common currency. It was found that once a country's real per capita income and deviations of its exchange rate from its trend value are allowed for, there is a pervasive relationship between wage dispersion and prices. Low wage dispersion, defined as a relatively small difference between the median wage and that of the lowest paid decile of workers, is associated with high price levels. The relationship applies more frequently to service prices than to goods prices, but where it does apply, the effects of wage dispersion are as large for goods as for services.

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Wage Dispersion and Country Price Levels¹

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Introduction

It has long been obvious that price levels, converted to a single currency via exchange rates, differ greatly from country to country. That fact has been demonstrated most conclusively in the reports on the United Nations' International Comparison Program since the 1970s. The history of the finding and explanations for it have been reviewed in quite a number of papers (Kravis and Lipsey 1983 and 1987; Bhagwati 1984; Clague 1985, 1986 and 1993; Bergstrand 1991; Falvey and Gemmell 1991; and Kleiman 1992). Many of these focus on factors that affect the price of services, or the service component of prices of goods, on the ground that the sources of price differences must be concentrated in nontradable sectors of the economy.

In a recent paper, the present authors examined differences in the price levels for food products and found that, despite the presumed tradability of foods, price levels for them differed among countries even more than for the GDP as a whole, with its large service component (Lipsey and Swedenborg 1996). The main explanatory factors found for these price differences were levels of protection for farm products and levels of indirect taxation, mainly VAT on foods. Other factors, not specific to food prices, were real income per capita,

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presumably operating through its effect on the cost of services, and deviations of general price levels from those implied by per capita incomes, presumably as a consequence of temporary factors affecting exchange rates or of omitted characteristics of the countries' economies such as, possibly, inefficient or monopolistic service sectors.

Our explanation of the role of per capita income started from the idea that industries could be characterized as labor-intensive or capital-intensive. If we think of goods production as relatively capital-intensive and service production as relatively labor-intensive, and goods production as tradable and service production as non-tradable (ignoring the over-simplification involved in these assumptions), services should be relatively cheap in poor countries, where labor is relatively cheap, as suggested in Kravis and Lipsey (1983) and Bhagwati (1984). Goods prices, at least at the producers' level, would tend to be more equal across countries because of the price-equalizing effects of trade. They could, however, differ at the purchasers' level because they may incorporate large elements of service input in, for example, wholesale and retail trade.

We speculated in that paper that another factor, missing in our analysis, might be the dispersion of wages among workers and industries. If we compare two countries in which labor prices are, on average, the same relative to capital input prices, but one pursues a policy of equalizing wages among workers while the other allows large differences based on skill, the structure of service prices could differ. In the absence of major possibilities for substitution among types of labor, the country with large wage differences among workers should face relatively lower prices for services intensive in low-skill labor, but relatively high prices for services intensive in high-skill labor. The country with a "solidaristic" wage policy, on the

other hand, should face relatively high prices for low-skill services and low prices for high skill services.

The impact of the wage structure will depend on the elasticity of substitution between skilled and unskilled labor. If the elasticity of substitution is high, the impact on service prices will be small. However, countries with wide wage dispersion will have higher proportions of unskilled workers in all industries than countries with a narrow range of wages, where it will be more profitable to employ skilled workers because the differential is small. Thus we might observe the effects of wage dispersion in the price of services, the skill distribution of employment, or both.

Data

Measures of Wage Dispersion

The measure of wage dispersion we use is based on data for individual workers and shows the differences between different deciles and median wage levels. Wage data by deciles are published by the OECD in its Employment Outlook. We have experimented also with industry wage data, as published in Gittleman and Wolff (1993), with results similar to, but weaker than, those from individual wage dispersion data, perhaps because the industry data are available only for broad industries, especially outside of the manufacturing sector. These equations are not shown here.

We use the individual wage dispersion data for fifteen countries reported in OECD (1996), taking as our measure of the wage dispersion measure the ratio of wages at the fifth (median) decile to those in the first (lowest) decile. An alternative measure, the ratio of the ninth decile to the median, is highly correlated with this one.

Among the countries reporting these data, The United States showed one of the highest degrees of inequality and Sweden the lowest. The ratio of wages in the ninth decile to those in the first was 4.3 in the United States and 2.1 in Sweden in 1995 (OECD 1996). Most of the other European countries were closer to Sweden than to the United States in this respect. Much of the wage compression is in the lower half of the distribution; those in the lowest decile of wage earners in the United States earn 37 per cent of the median wage while those in the lowest decile in Sweden earn 76 per cent of the median wage. As a result, workers in the lowest decile in Sweden earned 60 per cent more than those in the lowest decile in the United States in a year in which average real income (per capita GDP adjusted for purchasing power) was more than 25 per cent higher in the United States than in Sweden (Björklund and Freeman 1995).

The degree of wage dispersion appears to be a fairly permanent characteristic of a country, reflecting union policies and government regulations. The ranking of countries with respect to wage dispersion has been relatively constant. For example, the correlation between the 1970 and 1993 wage dispersions for countries with data for both years is .85.

To the extent that we accept the idea of worldwide equality of traded goods prices at the producer level (despite the evidence against it in the case of food prices), the factor proportions in the production of tradables should be irrelevant in determining their prices in different countries. International price differences would arise only as goods passed through national distribution systems, from differences in distribution margins and in taxes. The smaller the margin between producer and consumer prices for a tradable product, the smaller the differences among countries in prices should be at the consumer level. The larger the distribution margin, the more prices of tradables should vary across countries positively with

per capita incomes, as we know they do (see Kravis and Lipsey 1977 and 1978), and negatively with wage dispersion.

If these differences in wage dispersion reflected differences in the dispersion of productivity in the labor force, there would be little or no effect on prices or employment. In an analysis of the Swedish case, Björklund and Freeman (1995) concluded that wage compression in Sweden did not reflect the productivity or education of the work force. Edin and Topol (1995) reached the same conclusion and attributed wage compression in Sweden to the egalitarian goals of Swedish unions and central wage negotiations in a highly regulated labor market.

An OECD (1996) study finds strong negative correlations across countries between the incidence of low pay and both the degree of collective bargaining coverage and unemployment benefit replacement rates. These relationships suggest that differences in wage structure probably reflect differences in wage policy. Björklund and Freeman (1995) suggest that "...if low skill workers are paid more... than they would be paid in a more market-driven system of wage setting, someone must foot the bill for the higher wages of those workers." One of the questions asked here, in effect, is whether that someone is domestic consumers.

The limitation to fourteen or fifteen countries means that we are always somewhat short of degrees of freedom for comparisons across countries in any single year. We try to overcome this difficulty by pooling data across years and across industries, where that is possible.

Measures of Price Levels

Data on price levels originate in the benchmark year surveys of the United Nations International Comparison Program, covering 1970, 1973, 1975, 1980, 1985, 1990, and 1993.

The history of the program is summarized in Kravis and Lipsey (1991). GDP and other measures from the ICP for many countries are extrapolated to other years in a series of calculations called Penn World Tables, by Robert Summers and Alan Heston, (1991). The most recent of these, which is used here, is version 5.6. Annual price levels for foods for 1979-1990 have been estimated by extrapolation from 1985 in Lipsey and Swedenborg (1996). The OECD publishes annual estimates of GDP price levels in its national accounts volumes. Detailed price data for 1970 and 1975 for over 150 categories, and summary measures for 1973, appear in Kravis, Kenessey, Heston, and Summers (1975) and in Kravis, Heston, and Summers (1978) and (1982). Price data for OECD countries, at various levels of detail, are from OECD (1985), (1987), (1992), and (1995).

Unfortunately, the weighting systems and index number formulas differ from one data set to another. The three earlier data sets are based on world-wide final purchase weights and the indexes are constructed using the Geary-Khamis method. The OECD data are based on the final purchase weights of the OECD countries, and those for 1990 and 1993 use the EKS formula. We have not yet learned how much these differences in method affect our results.

Explaining Price Levels

GDP Price Levels

If our hypothesis about the effect of wage dispersion is correct, and if service industries are typically intensive in the use of unskilled labor, we would expect that GDP price levels would be associated negatively, across countries, with wage dispersion. We test that proposition using the three-year averages of national price levels from Lipsey and Swedenborg (1996), with the results shown in Table 1. The independent variables are the ones used in the earlier paper, real GDP per capita, the ratio of indirect taxes to GDP, and the net producer

subsidy equivalent (NPSE), a measure of protection on foods, to which we have added here wage dispersion and a measure of the deviation of each country's exchange rate from its trend over the period, 1979-1993. We expect the coefficients of all of these variables except wage dispersion to have positive signs.

The coefficient for wage dispersion was consistently negative, as we expected, and statistically significant in the first two periods. The higher the degree of wage dispersion, the lower the overall price level. As in our earlier study, higher per capita GDP, indirect taxes, and protection of agricultural products were all associated with higher GDP price levels. In addition, positive deviations of the value of a country's currency from its long term trend also usually produced higher price levels, although the first period was an exception.

Price Levels for Broad Product Groups

The ICP groups its more than 150 detailed categories of consumption and fixed investment into eleven broad groups that are reasonably consistent since the first ICP report for 1970. We can use these groups by pooling results for six scattered years to test for effects of wage dispersion. At the highly tradable end of the range we cover Foods, beverages, and tobacco, Clothing and footwear, and Producer durables. At the other end of the spectrum, among the least tradable, we have Rent, fuel, and power, Medical and health care, Education, recreation, and culture, Construction, and Government consumption, mainly compensation of government employees. For each of these groups we have observations for all the OECD countries in 1985, 1990, and 1993, and smaller numbers of countries in 1970, 1973, and 1975. The results of the analysis are shown in Table 2.

For only one of the eleven groups, Gross rent, fuel, and power, did our equation, using only per capita income and wage dispersion as independent variables, fail to provide a

significant explanation of price levels. All the coefficients for per capita income were positive and all but one were statistically significant at conventional levels. All the coefficients for wage dispersion were negative, and the only ones for which wage dispersion was not significant were Gross rent, fuel, and power, and Medical and health care. In the former case, one reason may be that the real estate industry and the petroleum and power generation industries are all highly capital-intensive. The housing sector is also subject to rent controls and subsidies in some countries, and taxes on fuel vary widely. In the latter case, the high degree of subsidization of consumption and the variance in the extent of subsidization across countries may blur the effects of other variables.

One might have expected that the equations would explain prices of services better than those of goods, because goods are more tradable. There are no obvious differences among these groups attributable to that distinction; goods prices seem as well explained as service prices. Furthermore, the size of the coefficients does not seem to differ consistently between goods and services. However, these groups are too broad and too mixed in content to permit a reliable judgment. That issue is investigated further below, using detailed categories that can be more clearly defined as mostly goods or mostly services. Adding the variable used above to represent deviations of exchange rates from their trend values has virtually no effect on these equations, as can be seen in Table 3. All the coefficients for the exchange rate deviation are positive, as we expect, but the addition of the variable reduces the degree of explanation almost as often as it increases it.

The previous conclusion remains undisturbed. Price levels for broad groups of final products are related positively to per capita income and negatively to wage dispersion, and the

relationships hold for goods as well as services and for capital goods as well as consumption goods.

Individual Product and Service Price Levels

To analyze these relationships at the detailed product level we concentrate on the three years, 1985, 1990, and 1993, for which the product classification is the same. The most detailed breakdown of goods and services in the OECD reports on the ICP consists of almost 200 items, of which 143 are goods and 46 are services.

One difficulty in explaining service industry price levels is that some services are delivered free to consumers or are heavily subsidized. Major examples are services provided by the government rather than by private firms, such as education and medical services in most countries. In the earlier rounds of the ICP an attempt was made to calculate the full cost of these services, rather than the subsidized price, but it is not clear how successful the effort was. In any case, the effort was abandoned after 1975.

We begin by summarizing the results in terms of the signs of the coefficients for wage dispersion, per capita income, and exchange rate deviations in equations with a significant degree of explanation of price levels, which we define as Prob. $F < .05$, and in all equations, regardless of the significance of the equations as explanations of price levels. Equations for goods and for services, pooling data for 1985, 1990, and 1993, are the basis for Table 4.

As might be expected, the proportion of statistically significant equations was higher for services than for goods. Half of the equations for services were significant, as compared with about 40 per cent for goods. Among these significant equations, the coefficients of wage dispersion, per capita GDP, and the exchange rate deviation overwhelmingly had the expected signs. The coefficients with t-values of 2 or above were almost unanimous in showing positive

effects for per capita GDP and negative coefficients for wage dispersion, but the exchange rate deviation was significant in only one case among services. If we tally the results from all equations, regardless of the F-test indications, we again find that the signs of the coefficients were as hypothesized, to a high degree, and again the statistically significant coefficients were almost unanimous. Over half of the coefficients for per capita GDP were significant in service price level equations, but less than a third in equations for goods price levels. The exchange rate deviation was significant in only a few goods price level equations and in only one service price equation. For wage dispersion, the variable of most interest to us, over half of the coefficients in goods and in services were significant. Thus, among the three variables we use to explain product price levels, wage dispersion accounts for the largest number of significant coefficients.

Another way of summarizing the results is by the size of the coefficients for the three variables. The averages of the coefficients for which t-statistics were above one and those for which they were above two are shown in Table 5.

The influence of wage dispersion on price levels is larger, on average, for services than for goods, as we expect, and the same is true for the effect of per capita income. More surprising, the exchange rate deviation has a larger effect on goods prices than on prices for services, despite the presumption that goods are more tradable, and therefore more subject to international arbitrage that would prevent exchange rate fluctuations from affecting prices calculated in a common currency. Thus, we can explain price levels more frequently for services than for goods, presumably because price differences are not arbitrated away by trade, and in those cases where these variables do explain price levels, the effects are larger for services than for goods, at least the effects of wage dispersion and per capita income.

One reason for failures to explain some price levels well is that we are attempting to explain all of them by the same limited set of variables when there must be particular factors that affect individual products, such as specific taxation or subsidy elements in their prices. It is therefore not surprising that among the six items in alcoholic beverages and tobacco products, price levels for only one are explained to a significant degree (Appendix Table 2). In Medical and health care, another group where we would expect to find a variety of subsidy and payment arrangements, eight out of sixteen equations were significant, but only four coefficients for wage dispersion. Two other items for which we could not explain price levels were Telephone and related services and Education fees, neither of which is a surprise, but the equation for Postal services and its coefficient for wage dispersion were significant, to our surprise.

If we think of the wage dispersion as being a result of conscious policy, we can ask how much of a difference in prices of typical goods and services would be implied by a change in the degree of dispersion. The average wage dispersion in the 15 countries in 1993 was 1.6 (Appendix Table 1), meaning that the median wage was 60 per cent above the lowest decile. The range was from 1.3 to 2.3. The detailed product equations imply that an increase of .3 in dispersion, which would raise the dispersion in the country with the lowest to the OECD average, would lower the price of the typical good or service by about a quarter. That would be roughly sufficient to lower the Swedish price level, for example, to the OECD average.

Conclusions

It seems safe to conclude that there is a pervasive relationship between wage dispersion and country price levels and that it applies to both goods and services. It applies more

frequently to services, but where it does apply, the effect of wage dispersion is as large for goods as for services. The higher the degree of wage dispersion, at least at the low end of the wage scale, between the lowest paid workers and the median, the lower is the country's price level. A compressed wage structure is associated with relatively high prices for both goods and services. This effect is in addition to the association between high per capita income and high price levels and to the effect of unusually high or low levels of the exchange value of a country's currency. The relation of prices to wage dispersion seems even a little more consistent than the relation to the other two variables.

Although it seems reasonable to attribute the differences in price levels at least partly to wage dispersion, along with per capita income and exchange rate fluctuations, there remains the possibility that there are some other common features of countries that follow policies to reduce wage dispersion that also produce high prices for goods and services.

We began our investigation on the assumption that the sources of international price differences would be found mainly in the service sector of the economy, because arbitrage would tend to reduce international differences in goods prices. There is plenty of evidence that international differences in service prices are smaller than differences in goods prices, as has been pointed out in many studies of international price level differences, such as Kravis, Heston, and Summers (1982), Kravis and Lipsey (1983), (1987), and (1988), and Bhagwati (1984), among others. Given the similarity in coefficients between goods and services equations here, despite the more frequent indications of significant effects in goods equations, it would reinforce our explanation of price levels if we found that the relationship was stronger for products that are relatively labor intensive and particularly for those intensive

in the use of unskilled labor in production. The same would be true if we found the relationship particularly strong for products requiring heavy distribution costs between the original producers and consumers. Both of these are issues we intend to explore further.

To investigate the role of factor intensities, particularly the role of the labor intensity of production, it would be necessary to match these price levels for individual goods and services to data available only by industry on labor input per unit of output, from input-output accounts or industrial census data, a difficult problem even for one country. If we do not wish to assume identical factor intensities across countries for individual industries, it would be desirable to collect data from several countries. Observed factor intensities are likely to differ among countries. If there is any possibility of substitution in response to factor price differences, factor intensities measured in physical terms will differ. Factor intensities measured in value terms will also differ unless all elasticities of substitution are unitary. If no factor substitution is possible, factor intensities in an industry, measured in physical terms, will be identical in all countries, but factor intensities in value terms will vary with factor prices.

If we derive factor intensities from census data, rather than from input-output data, it would be important to take account of the wedges between the producer prices in industry data and prices paid by final purchasers, represented in our country price level data. There are some data from the United States, such as those published by the U.S. Department of Commerce (1994a, Table C), that show inputs of wholesale and retail trade and transportation that are incorporated into final demand at purchasers' prices.

The impact of wage dispersion on prices presumably depends not only on labor intensity but particularly on intensity in the use of unskilled labor. Data would be available

The impact of wage dispersion on prices presumably depends not only on labor intensity but particularly on intensity in the use of unskilled labor. Data would be available only by industry, at best, and even these are probably available for very detailed industries only for the United States. Average wage levels across industries give some indication of average skill levels, but a more appropriate unskilled labor intensity would be the input of labor in the low-skill occupational classes, or the input of labor with low educational levels, as reported in U.S. decennial census data or the Current Population Reports.

Another variable possibly worth exploring is the tradability of different products. To some extent that may be encompassed by the transportation margin already referred to but there may be other factors that determine the extent of trade. Consumer services, with few exceptions, are rarely traded across international borders, but for goods, tradability may determine how much arbitrage takes place to reduce international price differences. Tradability might be measured by ratios of world trade to world production, if they could be assembled, or by similar ratios from U.S. input-output tables.

An extension of the analysis of the effects of egalitarian wage policy would be to think of it as the equivalent of a tax levied on consumers of the goods and services for which prices are raised by the policy. Then it would be of interest to calculate the incidence of the tax, as related to the income levels and family characteristics of consumers of the various goods and services.

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TABLE 1

**EQUATIONS RELATING GDP PRICE LEVELS TO
WAGE DISPERSION AND OTHER VARIABLES**

PL=F(RGDPC, INDT, NPSE, XRR, DISP)

15 OECD COUNTRIES ^a, 1979-1990

PERIOD	CONSTANT TERM	RGDPC	INDT	NPSE	XRR	DISP	ADJ. R SQ.	PROB F
1979-81	126.39 (2.66)	0.57 (2.28)	2.52 (2.92)	0.41 (2.00)	-1.18 (2.11)	-73.58 (3.67)	0.812	0.0007
1982-84	64.48 (2.69)	0.65 (6.47)	1.36 (2.65)	0.69 (6.12)	2.03 (8.02)	-45.01 (3.87)	0.931	0.0001
1985-87	66.43 (1.31)	0.32 (0.72)	1.23 (1.23)	0.40 (1.48)	1.53 (1.38)	-20.36 (1.74)	0.733	0.003
1988-90	68.28 (2.01)	0.56 (2.49)	0.36 (0.38)	0.45 (2.94)	2.21 (1.67)	-25.23 (1.63)	0.709	0.004

^a Australia, Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Portugal, Sweden, UK, and U.S.

PL - GDP at exchange rates divided by GDP at PPP (OECD average = 100).

RGDPC - Real GDP per capita at international prices.

INDT - Indirect taxes as per cent of GDP.

NPSE - Net producer subsidy equivalent on foods.

DISP - Wage Dispersion, ratio of median wage to wage at lowest decile.

XRR - Deviation of exchange rate from 1979-1993 trend value.

Source: Lipsey and Swedenborg (1996), Appendix Table 1 of this paper, and procedures described there for exchan

TABLE 2

**RESULTS OF EQUATIONS EXPLAINING PRICE LEVELS FOR BROAD
FINAL PRODUCT GROUPS BY WAGE DISPERSION
AND PER CAPITA GDP, 1970, 1973, 1975, 1985, 1990, and 1993 POOLED**

$$PL = F(DISP, CGDPX)$$

	INTERCEP	CGDPX	DISP	ADJ R-SQ	PROB F
Clothing and footwear	1.13 (3.2)	17.49 (2.9)	-0.72 (3.5)	0.145	0.0027
Collective consumption by government	0.79 (3.6)	9.71 (2.6)	-0.32 (2.5)	0.088	0.0207
Construction	0.72 (2.7)	14.16 (3.1)	-0.45 (2.9)	0.122	0.0061
Education, recreation and culture	0.71 (3.7)	12.95 (4.0)	-0.39 (3.6)	0.198	0.0004
Food, beverages and tobacco	1.12 (3.8)	12.92 (2.6)	-0.55 (3.2)	0.122	0.0063
Gross rent, fuel and power	0.72 (3.2)	7.57 (2.0)	-0.18 (1.4)	0.030	0.1451
Household equipment and operation	1.01 (4.3)	8.76 (2.2)	-0.33 (2.4)	0.065	0.0449
Machinery and equipment	1.47 (5.2)	7.22 (1.5)	-0.47 (2.9)	0.090	0.0193
Medical and health care	-0.33 (2.1)	16.73 (6.2)	-0.16 (1.7)	0.408	0.0001
Miscellaneous goods and services	0.75 (2.4)	22.09 (4.2)	-0.77 (4.3)	0.237	0.0001
Transport and communication	1.85 (8.0)	8.78 (2.2)	-0.71 (5.3)	0.298	0.0001

PL - PPP/XR (US = 1).

PPP - Purchasing Power Parities for Final Expenditure on GDP per US\$ (US=1).

XR - Period average exchange rates (foreign currency per US\$).

DISP - Wage dispersion, ratio of median wage to wage at lowest decile.

CGDP - GDP per capita at current prices and current PPPs.

CGDPX - Index of GDP per capita at current prices and current PPPs where US=100 each year.

Source: OECD (1996a) and (1996b).

TABLE 3

**RESULTS OF EQUATIONS EXPLAINING PRICE LEVELS FOR BROAD
FINAL PRODUCT GROUPS BY WAGE DISPERSION, EXCHANGE RATE
RESIDUALS AND PER CAPITA GDP, 1970, 1973, 1975, 1985, 1990, and
1993 POOLED**

$$PL = F(DISP, CGDPX, XRR)$$

	INTERCEP	CGDPX	DISP	XRR	ADJ R-SQ	PROB F
Clothing and footwear	1.13 (3.2)	18.45 (3.1)	-0.77 (3.7)	0.71 (1.4)	0.158	0.0033
Collective consumption by government	0.79 (3.6)	10.24 (2.8)	-0.35 (2.7)	0.39 (1.3)	0.097	0.0253
Construction	0.72 (2.7)	14.48 (3.1)	-0.47 (2.9)	0.23 (0.6)	0.113	0.0149
Education, recreation and culture	0.71 (3.8)	13.52 (4.2)	-0.42 (3.8)	0.42 (1.6)	0.217	0.0004
Food, beverages and tobacco	1.12 (3.9)	13.69 (2.8)	-0.58 (3.4)	0.57 (1.4)	0.134	0.0076
Gross rent, fuel and power	0.72 (3.2)	7.92 (2.1)	-0.20 (1.5)	0.27 (0.8)	0.025	0.2104
Household equipment and operation	1.01 (4.3)	9.22 (2.3)	-0.35 (2.5)	0.35 (1.0)	0.066	0.0650
Machinery and equipment	1.47 (5.3)	8.00 (1.7)	-0.51 (3.1)	0.58 (1.5)	0.106	0.0188
Medical and health care	-0.33 (2.1)	16.68 (6.1)	-0.16 (1.7)	-0.04 (0.2)	0.399	0.0001
Miscellaneous goods and services	0.75 (2.4)	22.36 (4.2)	-0.78 (4.3)	0.20 (0.4)	0.227	0.0003
Transport and communication	1.85 (7.9)	8.92 (2.2)	-0.71 (5.2)	0.11 (0.3)	0.287	0.0001

PL - PPP/XR (US = 1).

PPP - Purchasing Power Parities for Final Expenditure on GDP per US\$ (US=1).

XR - Period average exchange rates (foreign currency per US\$).

DISP - Wage dispersion, ratio of median wage to wage at lowest decile.

CGDP - GDP per capita.

CGDPX - Index of GDP per capita at current prices and current PPPs where US=100 each year.

XRR- Deviation of exchange rate from 1970-1993 trend value.

Source: OECD (1996a) and (1996b). Appendix Table 1 of this paper, and procedures described there for exchange rates.

TABLE 4

**SIGNS OF COEFFICIENTS FOR WAGE DISPERSION, PER CAPITA
INCOME INDEX, AND EXCHANGE RATE DEVIATION
IN EQUATIONS EXPLAINING DETAILED GOODS AND SERVICES
PRICE LEVELS 1985, 1990 AND 1993, POOLED**

	Coefficients for		
	Wage Dispersion	Per Capita GDP Index	X-Rate Res.
EQUATIONS WITH PROB. F < 0.05			
GOODS			
Negative	56 (52)	9 (2)	4 (0)
Positive	2 (1)	49 (34)	54 (16)
Total	58 (53)	58 (36)	58 (16)
SERVICES			
Negative	21 (15)	-	3 (0)
Positive	1 (0)	22 (20)	19 (1)
Total	22 (15)	22 (20)	22 (1)
ALL EQUATIONS			
GOODS			
Negative	137 (75)	21 (2)	10 (0)
Positive	7 (1)	123 (42)	134 (20)
Total	144 (76)	144 (44)	144 (20)
SERVICES			
Negative	43 (23)	1 (0)	10 (0)
Positive	1 (0)	43 (25)	34 (1)
Total	44 (23)	44 (25)	44 (1)

() = Number of coefficients with $t = > 2$

Source: Appendix Table 2.

TABLE 5

**AVERAGES OF COEFFICIENTS FOR WAGE DISPERSION,
PER CAPITA INCOME INDEX, AND EXCHANGE RATE DEVIATION
IN EQUATIONS EXPLAINING DETAILED GOODS AND SERVICES
PRICE LEVELS 1985, 1990 AND 1993, POOLED**

	Average Coefficients for		
	Wage Dispersion	Per Capita GDP Index	X-Rate Dev.
	COEFFICIENTS WITH T-STATISTICS = > 2		
GOODS	-0.86	13.34	1.36
SERVICES	-1.03	15.59	0.87
	COEFFICIENTS WITH T-STATISTICS = > 1		
GOODS	-0.73	12.08	1.04
SERVICES	-0.84	14.58	0.77

Source: Appendix Table 2.

APPENDIX TABLE 1

DATA FOR INDEPENDENT VARIABLES USED IN THE REGRESSIONS

			Wage	Exchange Rate	GDP per capita
			Dispersion	Residuals	(US=100 each year)
1	1970	BELGIUM	1.39	-6.350	65.13
2	1970	FRANCE	1.61	-5.103	71.25
3	1970	GERMANY	1.47	-0.530	72.84
4	1970	ITALY	1.49	11.690	58.34
5	1970	JAPAN	1.59	16.857	57.47
6	1970	NETHERLANDS	1.33	-0.360	71.68
7	1970	UK	1.47	11.860	64.54
8	1970	US	2.44	7.487	100.00
1	1973	BELGIUM	1.39	-3.280	67.74
2	1973	FRANCE	1.61	2.358	72.89
3	1973	GERMANY	1.47	-1.837	72.93
4	1973	ITALY	1.49	11.043	56.66
5	1973	JAPAN	1.59	6.525	61.04
6	1973	NETHERLANDS	1.33	-3.049	71.36
7	1973	UK	1.47	-0.201	64.69
8	1973	US	2.44	-8.890	100.00
1	1975	BELGIUM	1.39	-0.567	71.37
2	1975	DENMARK	1.41	3.643	75.81
3	1975	FRANCE	1.64	7.666	75.72
4	1975	GERMANY	1.47	-2.376	75.41
5	1975	ITALY	1.49	3.944	59.59
6	1975	JAPAN	1.59	-9.030	62.14
7	1975	NETHERLANDS	1.33	-0.508	76.32

APPENDIX TABLE 1 CON.

8	1975	UK	1.43	-7.242	65.64
9	1975	US	2.44	-11.142	100.00
1	1985	AUSTRIA	1.57	-3.489	72.89
2	1985	AUSTRALIA	1.61	10.334	73.04
3	1985	BELGIUM	1.40	-9.002	70.84
4	1985	CANADA	2.40	24.032	84.67
5	1985	DENMARK	1.42	-7.244	70.47
6	1985	FRANCE	1.41	-7.795	77.16
7	1985	GERMANY	1.61	-5.067	76.42
8	1985	ITALY	1.44	-10.547	69.79
9	1985	JAPAN	1.61	0.196	71.91
10	1985	NETHERLANDS	1.55	-5.804	70.29
11	1985	NORWAY	1.45	6.397	82.51
12	1985	PORTUGAL	1.56	-24.560	35.83
13	1985	SWEDEN	1.35	-1.619	77.52
14	1985	UK	1.64	4.554	67.97
15	1985	US	2.03	42.602	100.00
1	1990	AUSTRIA	1.67	0.242	75.68
2	1990	AUSTRALIA	1.68	-4.093	72.57
3	1990	BELGIUM	1.40	0.780	74.29
4	1990	CANADA	2.28	-3.744	83.33
5	1990	DENMARK	1.38	2.313	75.33
6	1990	FRANCE	1.62	1.975	78.97
7	1990	GERMANY	1.40	0.087	72.80
8	1990	ITALY	1.43	10.707	74.09
9	1990	JAPAN	1.65	-16.691	80.11
10	1990	NETHERLANDS	1.57	1.049	72.65
11	1990	NORWAY	1.32	-4.357	79.65

APPENDIX TABLE 1 CON.

DATA FOR INDEPENDENT VARIABLES USED IN THE REGRESSIONS

			Wage	Exchange Rate	GDP per capita
			Dispersion	Residuals	(US=100 each year)
12	1990	PORTUGAL	1.72	-0.42	42.66
13	1990	SWEDEN	1.33	0.568	77.41
14	1990	UK	1.72	1.451	72.27
15	1990	US	2.02	-13.026	100.00
1	1993	AUSTRIA	1.67	-4.320	79.03
2	1993	AUSTRALIA	1.64	-6.243	71.47
3	1993	BELGIUM	1.40	-0.150	79.68
4	1993	CANADA	2.26	-5.610	79.64
5	1993	DENMARK	1.38	3.247	78.98
6	1993	FRANCE	1.61	5.437	77.07
7	1993	GERMANY	1.37	-1.220	76.20
8	1993	ITALY	1.60	7.060	73.02
9	1993	JAPAN	1.64	20.977	83.62
10	1993	NETHERLANDS	1.54	-1.640	73.16
11	1993	NORWAY	1.32	-10.410	87.94
12	1993	PORTUGAL	1.75	23.870	48.64
13	1993	SWEDEN	1.36	-13.320	69.37
14	1993	UK	1.74	-4.610	69.86
15	1993	US	2.06	-9.403	100.00

GDP per capita with US=100 for each year, from OECD (1996a). part 7, table 2.

Wage Dispersion - Ratio of median to lowest decile from OECD (1996b)

Exchange Rate Residuals - Residuals from trends in exchange rates. Exchange Rates in dollars per unit of currency were taken from OECD (1996a) by dividing GDP in own currency by GDP in US dollars. They were put in terms of relatives (1970-1993 = 100) and converted to indexes with OECD averages for each year set to 100. Simple linear trends were then fitted to each country's index.

APPENDIX TABLE 2

RESULTS FOR INDIVIDUAL GOODS AND SERVICES

FOOD, BEVERAGES AND TOBACCO

	DISP	T-STAT	CGDPX	T-STAT	XRR	T-STAT	ADJ. RSQ.	PROB>F
G FOOD AND BEVERAGES	-0.69	2.7	13.88	2.1	0.77	0.9	0.210	0.0345
G RICE	-0.73	2.9	13.26	2.5	0.70	1.3	0.196	0.0101
G FLOUR AND OTHER CEREALS	-0.37	0.8	16.31	1.7	1.47	1.5	0.065	0.1382
G BREAD	-0.62	2.4	17.06	3.1	0.59	1.0	0.203	0.0087
G OTHER BAKERY PRODUCTS	-0.64	2.0	13.96	2.0	1.40	2.0	0.150	0.0270
G PASTA PRODUCTS	-0.76	2.6	14.26	2.2	0.68	1.0	0.149	0.0274
G OTHER CEREAL PRODUCTS	-0.60	2.2	8.29	1.4	0.83	1.4	0.090	0.0880
G FRESH, FROZEN AND CHILLED BEEF	-1.32	2.5	13.66	1.2	1.17	1.0	0.083	0.0999
G FRESH, FROZEN AND CHILLED VEAL	-0.27	0.7	14.22	1.7	0.51	0.6	0.013	0.3328
G FRESH, FROZEN AND CHILLED PORK	-0.82	3.1	15.60	2.8	0.67	1.1	0.227	0.0050
G FRESH, ETC. LAMB, MUTTON AND GOAT	-0.74	3.4	13.59	2.9	0.08	0.2	0.249	0.0030
G FRESH, FROZEN AND CHILLED POULTRY	-1.99	5.0	23.87	2.8	0.39	0.4	0.379	0.0001
G DELICATESSEN	-1.35	3.6	17.81	2.2	1.07	1.2	0.227	0.0050
G OTHER MEAT PREPARATIONS, EXTRACTS	-0.57	1.4	9.85	1.1	0.50	0.5	-0.009	0.4596
G OTHER FRESH, FROZEN, CHILLED MEAT	-1.39	3.2	4.50	0.4	1.63	1.6	0.172	0.0186
G FRESH, FROZEN OR DEEP-FROZEN FISH	-0.38	2.6	9.84	3.1	0.32	1.0	0.211	0.0072
G DRIED, SMOKED OR SALTED FISH	-0.24	1.5	3.68	1.0	0.45	1.2	0.021	0.2928
G FRESH, FROZEN, DEEP-FROZEN SEAFOOD	-0.43	1.2	9.72	1.3	0.55	0.7	0.001	0.3983
G PRESERVED OR PROCESSED FISH & SEAFOOD	-0.35	1.8	9.39	2.2	0.69	1.6	0.126	0.0438
G FRESH, PASTEURIZED, STERILIZED MILK	-0.05	0.2	9.42	1.9	0.42	0.8	0.046	0.1927
G CONDENSED, EVAPORATED, POWDERED MILK	-0.46	1.5	0.55	0.1	0.79	1.2	0.001	0.3984
G OTHER MILK PRODUCTS EXCLUDING CHEESE	0.10	0.4	7.27	1.1	0.74	1.2	0.026	0.2711
G PROCESSED AND UNPROCESSED CHEESE	-0.56	1.4	5.42	0.6	1.60	1.8	0.041	0.2090
G EGGS AND EGG PRODUCTS	-1.37	4.2	14.82	2.1	0.31	0.4	0.283	0.0013

APPENDIX TABLE 2 CON.

G BUTTER	-0.07	0.3	0.54	0.1	0.75	1.2	-0.036	0.6676
G MARGARINE	-0.34	1.4	6.95	1.3	0.70	1.2	0.028	0.2580
G EDIBLE OILS	-0.98	2.4	24.80	2.9	-0.79	0.9	0.189	0.0117
G OTHER ANIMAL AND VEGETABLE FATS	-0.98	3.2	12.01	1.8	0.33	0.5	0.171	0.0173
G FRESH FRUIT	-0.50	2.4	12.57	2.7	0.65	1.4	0.186	0.0125
G DRIED FRUIT AND NUTS	-0.16	0.8	5.97	1.4	0.13	0.3	-0.014	0.4926
G FROZEN AND PRESERVED FRUIT AND JUICES	-0.53	2.1	-1.48	0.3	1.65	2.8	0.148	0.0281
G FRESH VEGETABLES	-0.93	3.7	15.99	2.9	0.91	1.6	0.283	0.0013
G DRIED VEGETABLES	-2.25	2.1	35.20	1.5	1.87	0.8	0.065	0.1369
G FROZEN VEGETABLES	-0.95	3.4	13.68	2.3	1.23	2.0	0.245	0.0033
G PRESERVED VEGETABLES, JUICES, SOUPS	-1.08	3.3	-0.25	0.0	1.90	2.6	0.221	0.0057
G POTATOES AND OTHER TUBER VEGETABLES	-0.03	0.1	13.55	2.5	0.35	0.6	0.099	0.0742
G POTATO PRODUCTS	-0.71	2.2	8.91	1.3	0.33	0.5	0.057	0.1588
G RAW AND REFINED SUGAR	-0.39	2.3	5.70	1.5	0.50	1.3	0.094	0.0810
G COFFEE AND INSTANT COFFEE	-0.47	1.8	3.67	0.7	1.02	1.8	0.057	0.1597
G TEA AND OTHER INFUSIONS	-1.31	2.6	3.31	0.3	1.87	1.6	0.107	0.0642
G COCOA EXCLUDING COCOA PREPARATIONS	-0.18	0.4	6.85	0.7	1.38	1.3	-0.010	0.4641
G JAMS, JELLIES, HONEY AND SYRUPS	-0.70	2.2	7.54	1.1	1.58	2.2	0.123	0.0467
G CHOCOLATE AND COCOA PREPARATIONS	-0.13	0.6	1.64	0.3	0.52	1.0	-0.044	0.7329
G CONFECTIONERY	-0.60	2.0	11.13	1.7	0.20	0.3	0.058	0.1576
G EDIBLE ICE AND ICE-CREAM	-0.91	2.0	2.86	0.3	0.09	0.1	0.029	0.2545
G SALT, SPICES, SAUCES, CONDIMENTS	-0.46	1.2	13.55	1.6	0.43	0.5	0.010	0.3456
G MINERAL WATER	-0.30	0.6	20.69	2.1	0.20	0.2	0.035	0.2332
G OTHER SOFT DRINKS NEC	-0.73	2.0	8.66	1.1	0.99	1.2	0.049	0.1831
G SPIRITS AND LIQUEURS	-1.44	2.9	23.86	2.2	0.05	0.0	0.163	0.0207
G WINE (NOT FORTIFIED OR SPARKLING)	-0.05	0.2	16.50	3.7	-0.08	0.2	0.220	0.0059

APPENDIX TABLE 2 CON.

FOOD, BEVERAGES AND TOBACCO CON.

	DISP	T-STAT	CGDPX	T-STAT	XRR	T-STAT	ADJ. RSQ.	PROB>F
G BEER	-0.17	0.5	17.84	2.7	0.07	0.1	0.099	0.0734
G OTHER WINES AND ALCOHOLIC BEVERAGES	-1.26	1.7	23.47	1.5	-0.04	0.0	0.026	0.2676
G CIGARETTES	-0.57	1.8	16.11	2.3	-0.25	0.3	0.094	0.0811
G OTHER TOBACCO PRODUCTS	0.07	0.2	9.48	1.2	-0.66	0.8	-0.030	0.6179
CLOTHING AND FOOTWEAR								
G MEN'S CLOTHING	-0.60	3.0	4.82	1.1	0.97	2.2	0.179	0.0145
G LADIES' CLOTHING	-0.60	2.6	8.89	1.8	0.90	1.7	0.147	0.0287
G CHILDREN'S CLOTHING	-0.66	2.3	-3.04	0.5	1.65	2.6	0.149	0.0279
G INFANT'S CLOTHING	-1.36	1.7	-3.31	0.2	2.01	1.1	0.018	0.3064
G MATERIALS, YARNS, ACCESSORIES, ETC.	-1.13	4.1	9.11	1.5	1.38	2.2	0.284	0.0013
S REPAIR AND MAINTENANCE OF CLOTHING	-1.45	3.4	15.26	1.7	1.05	1.1	0.191	0.0114
G MEN'S FOOTWEAR	-0.53	2.8	10.23	2.5	0.77	1.8	0.209	0.0075
G LADIES' FOOTWEAR	-0.47	1.4	12.03	1.6	1.25	1.6	0.078	0.1098
G CHILDREN'S AND INFANT'S FOOTWEAR	-0.65	1.5	8.44	0.9	2.63	2.7	0.135	0.0370
S REPAIRS TO FOOTWEAR	-0.42	2.7	16.16	4.9	0.38	1.1	0.383	0.0001
GROSS RENT, FUEL AND POWER								
S RENTS OF TENANTS	-0.14	0.8	19.84	5.1	-0.08	0.2	0.370	0.0001
S IMPUTED RENTS OF OWNER-OCCUPIERS	-0.34	1.8	20.53	5.0	0.06	0.1	0.357	0.0002
S REPAIR AND MAINTENANCE OF HOUSING	-0.74	3.0	16.51	3.1	0.82	1.5	0.250	0.0029
S SANITARY SERVICES AND WATER CHARGES	-0.84	1.8	4.05	0.4	0.21	0.2	0.010	0.3461
S ELECTRICITY	-0.53	2.1	-4.31	0.8	0.82	1.4	0.081	0.1035
S TOWN GAS AND NATURAL GAS	-1.50	3.2	7.39	0.7	0.79	0.8	0.158	0.0249
G LIQUEFIED PETROLEUM GAS	-1.94	2.2	32.40	1.7	1.05	0.5	0.081	0.1027
G LIQUID FUELS FOR HEATING AND LIGHTING	-0.60	1.9	2.19	0.3	0.91	1.3	0.032	0.2435
G COAL, COKE AND OTHER SOLID FUELS	-1.92	2.0	31.87	1.5	1.68	0.8	0.056	0.1615
G WATER, ELECTRICITY, GAS AND FUEL	-0.70	3.1	7.09	1.6	1.84	3.2	0.410	0.0010

APPENDIX TABLE 2 CON.

HOUSEHOLD EQUIPMENT AND OPERATION

G	FURNITURE AND FIXTURES	-0.32	1.1	3.59	0.6	1.03	1.5	0.004	0.3809
G	CARPETS AND OTHER FLOOR COVERINGS	-0.17	0.7	3.80	0.8	0.77	1.5	0.003	0.3856
S	REPAIR OF FURNITURE, FLOOR COVERINGS	-0.69	2.0	14.06	1.9	0.34	0.4	0.073	0.1232
G	HOUSEHOLD TEXTILES, OTHER FURNISHINGS	-0.23	0.9	7.81	1.4	0.66	1.1	0.017	0.3110
S	REPAIR OF HOUSEHOLD TEXTILES, ETC.	-0.89	3.2	14.33	2.3	0.76	1.2	0.214	0.0085
G	REFRIGERATORS AND FREEZERS	-0.36	1.2	6.05	0.9	0.83	1.2	-0.002	0.4146
G	WASHING MACHINES, DRYERS, DISHWASHERS	-0.67	2.0	2.00	0.3	1.32	1.7	0.059	0.1542
G	COOKERS, HOBS AND OVENS	-0.57	1.9	-10.95	1.7	0.86	1.3	0.126	0.0438
G	HEATERS AND AIR-CONDITIONERS	-0.30	0.8	3.72	0.4	-0.22	0.2	-0.056	0.8445
G	VACUUM CLEANERS, POLISHERS, ETC.	0.36	2.2	6.54	1.8	0.50	1.3	0.245	0.0033
G	OTHER MAJOR HOUSEHOLD APPLIANCES	-1.08	2.9	2.74	0.3	1.40	1.7	0.141	0.0328
S	REPAIR OF MAJOR HOUSEHOLD APPLIANCES	-0.32	1.0	12.98	1.8	-0.07	0.1	0.013	0.3308
G	GLASSWARE AND TABLEWARE	-0.21	0.6	10.75	1.5	0.57	0.7	0.001	0.3952
G	CUTLERY AND SILVERWARE	-1.40	2.9	28.10	2.7	0.24	0.2	0.189	0.0119
G	MOTORLESS KITCHEN & DOMESTIC UTENSILS	-0.40	1.4	12.37	2.0	0.12	0.2	0.045	0.1955
G	MOTORLESS GARDEN APPLIANCES	-0.36	0.9	5.70	0.7	0.83	0.9	-0.032	0.6360
G	ELECTRIC BULBS, WIRES, PLUGS, ETC.	-0.24	1.2	9.21	2.0	0.64	1.3	0.086	0.0941
S	REPAIR OF GLASSWARE, TABLEWARE, ETC.	-1.31	3.3	25.21	3.0	-0.11	0.1	0.256	0.0033
G	CLEANING AND MAINTENANCE PRODUCTS	-0.86	3.1	13.46	2.2	0.71	1.1	0.189	0.0118
G	OTHER NON-DURABLE HOUSEHOLD GOODS	-0.69	2.0	9.98	1.3	0.97	1.2	0.058	0.1563
S	LAUNDRY AND DRY CLEANING	-1.13	3.6	7.97	1.2	0.41	0.6	0.203	0.0086
S	OTHER HOUSEHOLD SERVICES	-0.29	1.2	13.15	2.5	0.16	0.3	0.087	0.1012
S	DOMESTIC SERVICES	-0.53	1.7	19.69	3.0	-0.19	0.3	0.146	0.0293

APPENDIX TABLE 2 CON.

MEDICAL AND HEALTH CARE

	DISP	T-STAT	CGDPX	T-STAT	XRR	T-STAT	ADJ. RSQ.	PROB>F
S MEDICAL AND HEALTH CARE	-0.07	0.7	9.65	4.6	0.06	0.3	0.324	0.0005
G DRUGS AND MEDICAL PREPARATIONS	0.19	1.0	7.38	1.4	-0.41	0.6	0.095	0.1496
G OTHER MEDICAL SUPPLIES	-0.54	1.9	15.09	2.4	0.50	0.8	0.115	0.0549
G SPECTACLE LENSES AND CONTACT LENSES	-0.49	2.0	10.45	1.9	0.54	1.0	0.086	0.0952
G ORTHOPEDIC AND THERAPEUTIC APPLIANCES	0.00	0.0	0.16	0.0	0.03	0.1	-0.081	0.9997
S SERVICES OF GENERAL PRACTITIONERS	-0.09	0.7	11.12	3.4	0.17	0.6	0.178	0.0165
S SERVICES OF SPECIALISTS	-0.24	1.6	8.62	2.5	0.21	0.6	0.111	0.0626
S SERVICES OF DENTISTS	-0.04	0.3	5.90	1.6	0.08	0.2	-0.004	0.4274
S SERVICES OF NURSES	-0.14	0.6	4.60	0.9	-0.14	0.3	-0.053	0.8082
S SERVICES OF OTHER PRACTITIONERS	-0.94	2.5	21.96	2.7	0.15	0.2	0.158	0.0227
S MEDICAL ANALYSES	-0.22	0.8	9.59	1.7	0.04	0.1	0.001	0.3975
S MEDICAL STAFF	0.10	1.4	11.82	7.4	0.08	0.5	0.625	0.0001
S NON-MEDICAL STAFF	-0.07	0.7	12.54	5.9	0.14	0.6	0.461	0.0001
G PHARMACEUTICAL PRODUCTS	0.22	1.3	9.32	2.7	-0.05	0.1	0.177	0.0152
G THERAPEUTICAL EQUIPMENT	-0.35	2.0	10.26	3.0	1.13	2.5	0.344	0.0035
G OTHER EQUIPMENT	-1.36	4.6	11.55	1.5	-0.51	0.5	0.415	0.0011

TRANSPORT, COMMUNICATION

G PASSENGER VEHICLES	-0.50	2.0	-1.80	0.3	0.58	1.1	0.047	0.1891
G MOTORCYCLES AND BICYCLES	-0.80	4.0	3.20	0.7	0.13	0.3	0.250	0.0029
G TYRES, TUBES, PARTS, ACCESSORIES	-0.28	1.1	1.28	0.2	1.07	1.9	0.027	0.2654
S MAINTENANCE AND REPAIR SERVICES	-2.37	2.1	20.88	0.9	-0.46	0.2	0.049	0.1836
G MOTOR FUELS, OILS AND GREASES	-1.52	4.6	-4.47	0.6	1.59	2.1	0.339	0.0003
G CAR HIRE, DRIVING SCHOOLS, TOLLS, ETC.	-0.98	1.8	15.24	1.1	0.98	0.8	0.013	0.3330
S LOCAL BY BUS, TRAIN, TUBE, TRAM, TAXI	-0.51	2.3	16.86	3.4	0.12	0.2	0.215	0.0066
S LONG DISTANCE BY COACH AND RAIL	-0.10	0.4	13.41	2.7	0.01	0.0	0.099	0.0744

APPENDIX TABLE 2 CON.

S	LONG DISTANCE BY AIR AND SEA	-0.19	1.4	5.80	2.0	0.30	1.0	0.070	0.1271
S	OTHER PURCHASED TRANSPORT SERVICES	-2.09	2.5	14.33	0.8	1.08	0.6	0.074	0.1172
S	POSTAL SERVICES	-0.71	4.2	10.44	2.9	0.87	2.3	0.349	0.0002
S	TELEPHONE, TELEGRAPH, TELEX SERVICES	-0.04	0.2	6.26	1.3	-0.20	0.4	-0.032	0.6332

EDUCATION, RECREATION AND CULTURE

S	RECREATION, CULTURAL, RELIGIOUS AFFAIRS	-0.25	2.5	13.28	6.9	0.02	0.1	0.548	0.0001
G	RADIO SETS	-0.91	3.6	-0.09	0.0	0.44	0.8	0.212	0.0071
G	TELEVISION SETS, VIDEO RECORDERS, ETC.	-0.77	3.3	3.67	0.7	0.66	1.3	0.170	0.0178
G	RECORD-PLAYERS, CASSETTE RECORDERS, ETC.	-0.71	1.1	8.61	0.6	1.48	1.0	-0.023	0.5582
G	CAMERAS AND PHOTOGRAPHIC EQUIPMENT	-0.02	0.1	-12.42	4.6	0.15	0.5	0.324	0.0004
G	OTHER DURABLE RECREATIONAL GOODS	-0.70	5.8	-5.32	2.0	0.79	2.9	0.509	0.0001
G	RECORDS, TAPES, CASSETTES, ETC.	-0.52	2.0	1.50	0.3	0.95	1.6	0.052	0.1721
G	SPORTS GOODS AND CAMPING EQUIPMENT	-1.08	2.5	0.63	0.1	1.65	1.7	0.106	0.0644
G	GAMES, TOYS AND HOBBIES	-1.43	2.6	0.64	0.1	1.72	1.4	0.103	0.0690
G	FILMS AND PHOTOGRAPHIC SUPPLIES	-0.32	2.0	2.24	0.7	-0.02	0.1	0.036	0.2278
S	PARTS AND REPAIRS FOR RECREATIONAL GOODS	-0.29	1.0	18.08	2.8	-0.10	0.1	0.108	0.0622
S	CINEMAS, STADIUMS, MUSEUMS, ZOOS, ETC.	-0.17	0.9	6.20	1.5	0.60	1.4	0.050	0.1791
G	RADIO & TV LICENCE, RENTAL, SUBSCRIPTION	-1.49	4.9	20.89	3.2	0.97	1.4	0.391	0.0001
S	PHOTOGRAPHIC SERVICES, SERVICES FOR PETS	-1.08	2.1	13.13	1.2	1.61	1.4	0.066	0.1348
G	BOOKS	-0.41	1.5	7.35	1.2	1.15	1.9	0.073	0.1190
G	NEWSPAPERS AND OTHER PRINTED MATTER	-1.22	4.9	15.77	2.9	0.77	1.4	0.380	0.0001
S	EDUCATION FEES	-0.38	0.4	13.54	0.7	0.03	0.0	-0.063	0.9035

APPENDIX TABLE 2 CON.

MISCELLANEOUS GOODS AND SERVICES

	DISP	T-STAT	CGDPX	T-STAT	XRR	T-STAT	ADJ. RSQ.	PROB>F
S HAIRDRESSERS, BEAUTY PARLOURS, ETC.	-0.47	2.1	12.95	2.7	0.51	1.0	0.162	0.0210
G DURABLE TOILET ARTICLES AND REPAIRS	-0.79	2.6	10.00	1.5	0.42	0.6	0.100	0.0732
G NON-DURABLE TOILET ARTICLES	-0.77	2.9	12.73	2.2	0.36	0.6	0.160	0.0219
G JEWELLERY, WATCHES AND THEIR REPAIR	-0.47	1.8	6.67	1.2	0.27	0.5	0.019	0.3025
G TRAVEL GOODS AND BAGGAGE ITEMS	-0.71	4.0	-3.36	0.9	0.64	1.6	0.283	0.0013
G GOODS FOR BABIES, PERSONAL ACCESSORIES	-0.39	1.4	-0.05	0.0	1.33	2.1	0.052	0.1782
G WRITING & DRAWING EQUIPMENT & SUPPLIES	-1.31	4.4	15.90	2.5	0.26	0.4	0.318	0.0005
G FLOWERS, PLANTS, PETS AND PET FOOD	-0.76	1.3	12.36	1.0	2.50	1.9	0.053	0.1696
S RESTAURANTS AND TAKE-AWAYS	-0.83	4.3	8.71	2.1	0.30	0.7	0.288	0.0011
S PUBS, CAFÉS, BARS AND TEA-ROOMS	-1.56	4.4	29.25	3.8	0.29	0.4	0.375	0.0001
S STAFF CANTEENS	-1.24	2.2	26.04	2.1	-0.61	0.5	0.108	0.0656
S HOTELS AND OTHER LODGING PLACES	-1.09	2.7	13.47	1.5	0.53	0.6	0.108	0.0623
S CHARGES FOR FINANCIAL SERVICES NEC	-0.81	2.1	16.71	1.6	0.69	0.7	0.060	0.1600
S FEES FOR OTHER SERVICES NEC	-1.86	2.1	28.08	1.5	-0.20	0.1	0.065	0.1372

MACHINERY AND EQUIPMENT

G STRUCTURAL METAL PRODUCTS	-0.42	1.1	1.86	0.2	1.29	1.6	0.002	0.3912
G PRODUCTS OF BOILERMAKING	-0.53	1.9	8.67	1.4	0.12	0.2	0.041	0.2090
G TOOLS AND FINISHED METAL GOODS	-0.78	2.5	0.75	0.1	1.85	2.6	0.154	0.0249
G AGRICULTURAL MACHINERY AND TRACTORS	-0.12	0.7	2.96	0.8	0.96	2.5	0.101	0.0707
G MACHINE TOOLS FOR METAL WORKING	0.09	0.5	2.47	0.6	0.22	0.5	-0.041	0.7144
G EQUIPMENT FOR MINING, METALLURGY,	-0.31	2.8	5.13	2.1	0.51	2.0	0.199	0.0094
G TEXTILE MACHINERY	-0.56	1.9	2.03	0.3	0.69	1.0	0.021	0.2905
G MACHINERY FOR FOOD, CHEMICALS, RUBBER	-0.21	1.1	0.57	0.1	1.00	2.4	0.072	0.1215
G MACHINERY FOR WORKING WOOD, PAPER AND	-0.30	0.5	-4.98	0.4	0.71	0.5	-0.062	0.8897
G OTHER MACHINERY & MECHANICAL EQUIPMENT	-0.21	0.7	1.43	0.2	0.94	1.4	-0.023	0.5645
G OFFICE AND DATA PROCESSING MACHINES	-1.58	1.0	-14.89	0.4	1.59	0.4	-0.040	0.7026
G PRECISION INSTRUMENTS	-0.16	0.8	-2.44	0.5	0.28	0.6	-0.045	0.7455

APPENDIX TABLE 2 CON.

G OPTICAL INSTRUMENTS, PHOTOGRAPHIC EQUIP.	-0.12	0.6	-3.27	0.7	0.32	0.7	-0.044	0.7279
G ELECTRICAL EQUIPMENT INCLUDING LAMPS	-0.64	2.0	5.53	0.8	1.21	1.7	0.072	0.1228
G TELECOMMUNICATION & ELECTRICAL EQUIP. NEC	-0.20	1.1	-2.90	0.7	1.02	2.5	0.082	0.1017
G ELECTRONIC EQUIPMENT, ETC.	-0.26	0.7	7.35	0.9	1.14	1.4	0.006	0.3670
G MOTOR VEHICLES AND ENGINES	-0.46	1.7	-0.92	0.2	0.98	1.6	0.030	0.2508
G BOATS, STEAMERS, TUGS, PLATFORMS, RIGS	-0.53	2.5	-0.57	0.1	0.70	1.5	0.098	0.0752
G LOCOMOTIVES, VANS, WAGONS	-0.44	1.6	2.42	0.4	0.79	1.2	0.008	0.3557
G AIRCRAFT AND OTHER AERONAUTICAL EQUIPMENT	-0.55	2.6	-0.70	0.2	0.60	1.3	0.102	0.0705
G OTHER TRANSPORT EQUIPMENT	-0.55	2.6	-1.81	0.4	0.58	1.2	0.120	0.0589
CONSTRUCTION								
G ONE-FAMILY DWELLINGS	-1.01	4.4	13.40	2.7	0.48	0.9	0.319	0.0005
G MULTI-FAMILY DWELLINGS	-0.44	3.6	12.57	4.8	0.20	0.7	0.404	0.0001
G AGRICULTURAL BUILDINGS	-0.58	3.0	4.24	1.0	0.72	1.7	0.153	0.0256
G INDUSTRIAL BUILDINGS	-0.52	2.8	10.12	2.5	0.23	0.6	0.175	0.0159
G BUILDINGS FOR MARKET SERVICES	-0.42	2.2	9.80	2.3	0.54	1.2	0.139	0.0340
G BUILDINGS FOR NON-MARKET SERVICES	-0.44	2.2	11.43	2.6	0.68	1.5	0.169	0.0183
G ROADS, STREETS AND HIGHWAYS	-0.29	1.7	8.10	2.2	0.33	0.9	0.092	0.0847
G OTHER TRANSPORT ROUTES & UTILITY LINES	-0.47	1.5	11.16	1.6	0.73	1.0	0.045	0.1947
G OTHER CIVIL ENGINEERING WORKS	-0.12	0.4	5.56	0.8	0.92	1.3	-0.002	0.4138
G OTHER PRODUCTS	-0.58	3.9	7.95	2.7	0.84	2.1	0.439	0.0005
COLLECTIVE CONSUMPTION BY GOVERNMENT								
S SOCIAL SECURITY AND WELFARE SERVICES	-0.22	2.0	13.74	6.4	0.13	0.6	0.501	0.0001