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NEW FORMS AND NEW AREAS OF EMPLOYMENT GROWTH

FINAL REPORT FOR ITALY — PART I

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NEW FORMS AND NEW AREAS OF EMPLOYMENT GROWTH

Final report for Italy - Part I

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Document

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CHAPTER 1

Summary of the report

1. Total employment in Italy has been almost stable since 1960 to our times (the 1960-1985 variation is only 1,5%), while the labor force increased from 21,5 to 23,2 million in the same period:

   - employment in agriculture dropped from 6,6 million (32,5% of total employment) to 2,4 million (11,6%) in parallel with analogous developments in other European countries;

   - manufacturing employment increased vigorously throughout the sixties and until 1971; thereafter it slowed down and went through minor oscillations during and ofter the years of the oil crisis;

   - service employment has climbed from 33,7% in 1960 to 55,7% in 1985: the share of Public Administration accounted for 10,2% of total employment at the begining of the observation period, and is up to 17,4% at its end;

   - the partecipation rate to the labour force was 44% in 1960 and steadily declined to 37,9% in 1972 (the flight from agriculture was the main responsible for this very substantial drop). Thereafter it slowly picked up again, reaching 41,1% in 1985. While the male partecipation rate has been practically constant around 54-55% in the last thirteen years, its female counterpart has increased on average half a percentage point a year since 1973 (from 21,3% then to 28,2% in 1985).

2. The share of self-employment in the Italian economy has steadily decreased until the mid Seventies, and has since inverted its downward trend in all branches of economy activity. This is a widespread phenomenon, common to most industrialized countries, related to the new thrust in small-scale business and self-provision of services.

3. Female employment has gone through a long swing between 1960 and 1984: it decreased from 30% of total employment in 1960 to 27% in the early Seventies. Since then the share of female employment has turned upwards: this is due to two phenomena that mutually reinforced each other: from the demand side the employment freeze in manufacturing, while all the service sectors were vigorously expanding; from the supply side the reversal in women's partecipation to the labor force.

4. The time profile of unemployment in Italy has been remarkably flat until 1975. It was not until the aftermath of the first oil shock that unemployment began to rise: at moderate pace until 1980, more rapidly thereafter inspite of the cyclical expansion of 1982-1983.
   In 1985 the unemployment rate reached 10,6% of the labour force, with more than 2,4 million persons in search of a job. The male unemployment

rate was 7% while the female conterpart reached 17,3%. In 1985 59,8% of all the unemployed was in the age group 14-24.

5. In the 1978-81 period total industrial employment remained practically stable: we estimate that +29 thousand jobs per year have been created by newly born enterprises in excess of those destroyed by closures, while the net balance of job creation and elimination by the existing firms is negative, approximately -30 thousand positions per year.
In the period 1981-1984, employment change in manufacturing has been -200 thousand units/per year on average. Job losses among existing firms have been in the order of -90 thousand/year, while the net balance attributable to birth and death processes has turned negative, in the order of -110 thousand positions/year.

6. Long run projections of Italy's labour force based on a demographic model have been prepared for the Ministry of Labour. By the end of the century potential labour force may increase from today's 23.3 million to 25 million, mainly as a consequence of the increasing female partecipation rate.

7. Comparing the 1971 and 1981 Census of Population data yields a preliminary overview of the occupations that have experienced the largest relative increases and decreases in the decade.
Among the "winning occupations" we find technical professions such as mathematicians, statisticians, airplane pilots; professions pertaining to health care services (doctors, pharmacists, nurses); other highly qualified professions belonging to the service sector (e.g. journalists), but also mid-level professions (again belonging to the service sector) such as interpreters and translators, and unskilled professions, such as street cleaners, shop-clerks, doormen, cooks and waiters.
Among the losers, not surprisingly, we find a large number of manual workers. There are, however, some exceptions: electrical fitters, electrical technicians, radio technicians, structural metal preparers, shoemakers and leather good makers.

8. The new content of jobs bas been studied with reference to seven manufacturing sectors:
   - Metal-working
   - Cars
   - Electronics
   - Textiles
   - Plastics
   - Rubber
   - Printing

New job contents are induced by the need of multidisciplinary intervention on computers, robots and automatisms: typically, the emerging profile requires a blending of know-how in mechanics, electronics and hydraulics. The area of intervention may still be monofunctional, as is the case of the "mechatronic" (repairing and maintenance).
The trend points also to a multifunctional worker, as in the case of the "system engineer", or, with a less wide scope of control, the "machine operator". These profiles exemplify three new and highly qualified jobs, directly induced by process innovation.
At the other extreme we find the "information operator" (typically, a video-terminal operator, with purely executive assignements) and - in the middle range - the "control operator", where again we can distinguish a process or system operator and the machine operator. The "operator" is viewed - in perspective - as the upgraded equivalent of the assembly-line worker (the central figure in the 60's).
By and large the number of new production-worker positions associated with the emerging professional profiles might be in the order of 80-85 thousand before 1990.

9. Two case-studies of service sectors have been conducted, aimed at detecting the characteristics of new occupational profiles in the tourist and leisure industry and in regional welfare activities.

10. The increasing integration of the service sectors with manufacturing activities will provide the main thrust to the development of new areas of employment: while economic growth leads to a higher degree of product standardization in order to capture the benefits of scale economies, wealthier consumers demand more differentiated products.
Intermediate services respond to the need of differentiation both with regard to product characteristics (market studies, design, assistance service) and by providing an appropriate distribution system (wholesale, merchandising, transportation). Most of the producers' services are internationally tradeable: direct trade flows of such services will therefore increase in the near future.
In addition, the increased integration of services with manufacturing will lead to an increase of the trade flows of services embodied in other commodities.
Much of J.I. Gershuny's message on the evolution of post-industrial society points in this direction. His concern for the often-made confusion between industries and occupations, and his emphasis on the progressive non-emptiness of the off-diagonal cells of the matrix "industry-occupation" derive from observing the increasing integration between services and manufacturing.
Yet, while integration between services and manufacturing proceeds at the "industry" level, it does not follow that the same patterns should

prevail at the "firm" level.
Quite the contrary: much of the discussion in the report points at the progressive disintegration of production activities by business firms, i.e. the recourse to the market for numerous functions - often service-related - in order to preserve flexibility against uncertainty in factor and product markets.

11. In Italy the 1971-1981 decade has witnessed a process of "polarization" of the job market, with many highly skilled professions and low skilled occupations growing rapidly at the expense of some intermediate skill-positions.
In forecasting future developments, it appears that while there is no one-to-one correspondence between the new areas of employment and job creation, it is likely that some of the thrust behind the economy touches upon both issues.
The employers' search for flexibility is basic for the understanding of the introduction of flexible automation in many sectors of manufacturing industry, as well as for the interpretation of the recent trends in the deverticalization process that explains why so many small firms have been established in recent years.
Some of the new jobs will be created within large organizations, some in small independent units; some will have to come from the public sector, many may find fertile ground in the black economy.
In any case the quest for flexibility may determine - to a large extent - the organizational framework within which the new job holders will be placed. The latter, in turn, may be heavily influenced by the existing institutional framework on labor contracts and by the system of industrial relations.

12. There is wide consensus on the expansion of future demand for the new top-skill occupations (I.T.-related professions in the factory as well as in administrative tasks; occupations in high technology and science-related activities) - the degree of uncertainty refers to its rate of growth (will it be higher than 10% or only between 4 and 6% ?) - almost independently of the upswings of the economy. Top-skill occupations - crucial as they may be for the economy as a whole - will not amount to more than a small share of total employment.
More doubts have, instead, been raised on the employment potential of the intermediate and low skill jobs in the years to come. Many low skill occupations will expand mainly via part-time and temporary work agreements (as has happened in many other countries).
Similar patterns may take place in Italy in the next future, provided that the recourse to flexibile contractual arrangements is vigorously enhanced. Preliminary data suggest that the Italian economy might be moving in the right direction from the perspective of both employers and employees, but it is crucial that the socio-political acceptance of

job-sharing in its various forms should in no way be impeded.
At the intermediate skill-level of the occupational ladder we find that while part-time is not perceived as a solution that helps flexibility by large firms, temporary work contracts and flex-time arrangements are viewed by large firms as more suitable instruments to enhance employment.

CHAPTER 2

The main trends in employment and occupations

2.1. Overview of main trends in employment and labour force

2.1.1. Employment productivity and labour force

Total employment in Italy has been almost stable since 1960 to our times (the 1960-1985 variation is only 1,5%), while the labor force increased from 21,5 to 23,2 million in the same period.
Table 1, 2 and 3 are indicative of the main trends:

(i) employment in agriculture dropped from 6,6 million (32,5% of total employment) to 2,4 million (11,6%) in parallel with analogous developments in other European countries;

(ii) manufacturing employment increased vigorously throughout the sixties and until 1971; thereafter it slowed down and went through minor oscillations during and ofter the years of the oil crisis, contrary to most other European countries hit by the recessionary climate. It reached its maximum expansion in 1981, and only then took a major dip which has yet to come to a halt. In relative terms (table 1) the share of industrial employment was 33,8% in 1960; it is 33,2% in 1985, after having reached 39,3% of total employment in 1970;

(iii) service employment has climbed from 33,7% in 1960 to 55,7% in 1985: the share of Public Administration accounted for 10,2% of total employment at the begining of the observation period, and is up to 17,4% at its end. In relative terms the largest increase comes from the branch "banking, insurance and business services" which has almost doubled its weight (6,1% in 1960; 10,6% in 1984) (See table A1-Annex);

(iv) the size of the labour force increased from 21,5 to 23,2 million between 1960 and 1985: the total partecipation rate was 44% in 1960 and steadily declined to 37,9% in 1972 (the flight from agriculture was the main responsible for this very substantial drop). Thereafter it slowly picked up again, reaching 41,1% in 1985. While the male participation rate has been practically constant around 54-55% in the last thirteen years, its female counterpart has increased on average half a percentage point a year since 1973 (from 21,3% then to 28,2% in 1985);

(v) the cyclical ups and downs of the Italian economy are well picked up by average labour productivity. Growth in real terms had been high in all branches until 1970; it decelerated substantially (except in agriculture) in the period 1970-1975; it was high again, especially in manufacturing, in the next five year stretch 1975-1980, and much lower since (table 3).

Tab. 2.1 Employment by broad industry sector and by sex. 1960-1985

Levels (thousands)

	Agriculture				Industry				Services				Whole economy			
	M	F	TOT	F/TOT	M	F	TOT	F/TOT	M	F	TOT	F/TOT	M	F	TOT	F/TOT
1960	4410	2201	6611	.33	5043	1822	6865	.27	4730	1822	6854	.23	14183	6147	20330	.30
1965	3467	1636	5103	.32	5552	1631	7183	.23	5006	2210	7216	.31	14025	5477	19502	.28
1970	2644	1234	3878	.32	5878	1713	7591	.22	5481	2375	7856	.30	14003	5322	19325	.27
1975	2165	1109	3274	.34	5985	1684	7669	.22	5938	2835	8773	.32	14088	5628	19716	.29
1980	1870	1055	2925	.36	5948	1823	7772	.23	6366	3612	9978	.36	14184	6491	20675	.31
1985	1485	812	2296	.36	5270	1626	6896	.23	7232	4318	11550	.37	13986	6756	20742	.33

Share of total employment (%)

	Agriculture			Industry			Services			Whole economy		
	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT
1960	31.1	35.8	32.5	35.6	29.6	33.8	33.3	34.6	33.7	100.0	100.0	100.0
1965	24.7	29.9	26.2	39.6	29.8	36.8	35.7	40.4	37.0	100.0	100.0	100.0
1970	18.9	23.2	20.1	42.0	32.2	39.3	39.1	44.6	40.7	100.0	100.0	100.0
1975	15.4	19.7	16.6	42.5	29.9	38.9	42.1	50.4	44.5	100.0	100.0	100.0
1980	13.2	16.3	14.1	41.9	28.1	37.6	44.9	55.6	48.3	100.0	100.0	100.0
1985	10.6	12.0	11.1	37.7	24.1	33.2	51.7	63.9	55.7	100.0	100.0	100.0

SOURCE: ISTAT

Tab. 2.2 Labour Force by sex 1960-1985 (thousands)

	Labour Force			Labour Force/Population %		
	M	F	TOT	M	F	TOT
1960	14904	6641	21545	62.5	26.4	44.0
1961	14825	6710	21535	62.1	26.5	43.8
1962	14749	6557	21306	61.2	25.7	43.0
1963	14616	6236	20852	60.2	24.3	41.8
1964	14786	6084	20870	60.2	23.5	41.4
1965	14655	5957	20612	59.3	22.8	40.5
1966	14591	5776	20367	58.5	22.0	39.8
1967	14719	5788	2050	58.5	21.9	39.7
1968	14673	5882	20555	57.8	22.1	39.5
1969	14485	5884	20369	56.8	21.9	38.9
1970	14547	5889	20436	56.6	21.8	38.7
1971	14507	5897	20404	56.0	21.7	38.4
1972	14443	5829	20272	55.4	21.3	37.9
1973	14410	6038	20448	54.9	21.8	38.0
1974	14514	6135	20650	54.8	22.0	38.0
1975	14579	6282	20861	54.6	22.4	38.1
1976	14614	6563	21177	54.5	23.2	38.5
1977	14563	6913	21476	54.1	24.4	38.9
1978	14616	6961	21577	54.1	24.5	38.9
1979	14676	7222	21898	54.2	25.3	39.4
1980	14746	7425	22171	54.4	26.0	39.9
1981	14845	7594	22439	54.7	26.5	40.3
1982	14878	7667	22545	54.6	26.7	40.3
1983	14952	7869	22821	54.6	27.3	40.6
1984	14986	8052	23038	54.6	27.8	40.9
1985	15040	8173	23213	54.7	28.2	41.1

SOURCE: ISTAT

Tab. 2.3 Average labour productivity. Annual growth rates (1960-1984)

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1984	1960-1984
AGRICULTURE	+ 13.3	+ 8.0	+ 5.7	+ 3.3	+ 4.8	+ 13.2
INDUSTRY	+ 5.0	+ 8.0	+ 1.7	+ 5.3	+ 1.6	+ 6.5
- Energy and water	+ 7.2	+ 6.8	+ 0.3	+ 1.7	- 0.8	+ 3.9
- Manufacturing	+ 7.1	+ 8.7	+ 1.8	+ 6.7	+ 2.1	+ 8.6
- Building	+ 1.0	+ 4.8	+ 1.5	+ 1.4	+ 0.8	+ 2.3
SERVICES	+ 4.6	+ 3.7	+ 1.1	+ 1.5	- 1.7	+ 2.2
- Distributive trades, hotels	+ 8.7	+ 5.2	+ 2.1	+ 2.5	- 1.4	+ 4.7
- Transport and communication	+ 2.3	+ 6.2	+ 2.1	+ 3.3	+ 1.0	+ 4.0
- Banking,insurance,business services	+ 9.0	+ 1.6	+ 1.7	- 0.7	- 3.3	+ 1.8
- Public services and other non marketed services	+ 0.8	+ 0.8	- 0.7	=	=	+ 0.8
TOTAL	+ 6.7	+ 6.7	+ 2.5	+ 3.3	=	+ 5.6

SOURCE: ISTAT, National Accounts.

2.1.2. Employment and self-employment

The share of self-employment in the Italian economy has steadily decreased until the mid Seventies, and has since inverted its downward trend (table 4). In the Sixties the pattern was driven mainly by the decline of agricultural labour force; also the rapid modernization of Italy's industrial structure following the years of the so-called "Italian miracle" had its part in determining the speed of the trend away from self-employment. Since the mid Seventies self-employment has begun to regain positions in all branches of economic activity (except energy and water): this is a widespread phenomenon, common to most industrialized countries, related to the new thrust in small-scale business and self-provision of services. The reason behind such reversal will be discussed at length in ch. 5 of this report.

2.1.3. Employment by sex

Female employment has gone through a long swing between 1960 and 1984 (table 1): it decreased from 30% of total employment in 1960 (its share was even higher in the early sixties, when agricultural work-force amounted to more than 40% of the total) to 27% in the early Seventies. The decade 1960-1970 had indeed been characterized by a progressive strong "defemininization" of the industrial work-force, not counterbalanced by the expansion of female employment in the service sectors. These developments are well known and have been the centre of much debate among economists and sociologists a decade ago (1).

Since the mid-Seventies the share of female employment has turned upwards: this is due to two phenomena that mutually reinforced each other: from the demand side the employment freeze in manufacturing, while all the service sectors were vigorously expanding; from the supply side the reversal in women's partecipation to the labor force.

Throughout the Eighties female employment gained positions in all branches of economic activity: only in relative terms in agriculture and industry at large, in absolute terms and at very rapid pace in the services. The share of women among the self-employed has been almost unchanged in agriculture throughout the last 25 years; it has steadily decreased in industry and increased very slowly in the services (table A.5-Annex).

2.1.4. Employment by professional status

Table 5 indicates two very clear patterns that testify to the general up-grading of the managerial skills of the labour force and of the extent of organizational change that is taking place in the business at large: among the self-employed the number of entrepreneurs and professionals is rapidly increasing, while the mumber of family aids is declining (in absolute number, the latter are still much more numerous). Among the dependent workers the proportion of managers and white-collars has almost doubled between 1970 and

Tab. 2.4

Employment by broad industry sector. Self-employed/Employee. 1960-1985

	Agriculture				Industry				Services				Whole economy			
	A	B	TOT	B/TOT %	A	B	TOT	B/TOT %	A	B	TOT	B/TOT %	A	B	TOT	B/TOT %
1960	1746	4865	6611	73.6	5526	1339	6865	19.5	4483	2371	6854	34.6	11755	8575	20330	42.2
1965	1536	3567	5103	69.9	5920	1263	7183	17.6	4758	2458	7216	34.1	12214	7288	19502	37.4
1970	1236	2642	3878	68.1	6424	1167	7591	15.4	5258	2598	7856	33.1	12918	6407	19325	33.2
1975	1179	2095	3274	64.0	6627	1042	7669	13.6	6131	2642	8773	30.1	13937	5779	19716	29.3
1980	1097	1827	2925	62.5	6597	1175	7772	15.1	7114	2865	9978	28.7	14808	5867	20675	28.4
1985	857	1440	2296	62.7	5753	1142	6896	16.6	8042	3508	11550	30.4	14652	6090	20742	29.4

A= employee
B = self-employed

SOURCE: ISTAT

Tab. 2.5

Employment by broad industry sector and by professional status (1970-1980-1985)

SELF-EMPLOYED (%)

	Agriculture			Industry			Services			Whole economy		
	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT
Entrepreneurs, professionals												
1970	0.5		0.3	5.8	0.4	4.7	11.2	2.3	8.4	5.6	1.0	4.3
1980	3.0	1.6	2.5	14.5	4.1	12.6	13.1	4.7	10.4	10.5	3.5	8.3
1985	2.5	1.0	1.9	11.6	3.5	10.2	19.3	7.5	15.6	13.9	5.3	11.3
Independent workers												
1970	80.4	27.5	63.5	85.3	73.3	82.9	77.8	53.2	69.9	80.7	44.7	70.1
1980	85.1	48.4	72.0	79.3	66.5	76.7	77.3	55.2	70.1	80.1	54.0	72.0
1985	87.0	49.7	74.3	81.2	62.4	77.9	71.7	55.6	66.6	77.2	54.7	70.5
Family aids												
1970	19.1	72.5	36.2	9.0	26.3	12.4	11.0	44.5	21.7	13.7	54.4	25.6
1980	11.9	48.9	25.5	6.2	29.8	10.5	9.6	40.2	19.5	9.4	42.5	19.6
1985	10.5	49.5	23.7	7.2	33.7	11.9	9.0	36.7	17.9	9.0	39.9	18.1

EMPLOYEE (%)

	Agriculture			Industry			Services			Whole economy		
	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT
Managers and white-collar workers												
1970	2.4	0.6	1.9	10.0	16.8	11.4	46.9	57.9	50.5	21.9	34.3	25.1
1980	6.9	2.7	5.3	16.2	22.6	17.7	48.9	61.9	53.7	29.9	43.1	34.1
1985	9.6	8.0	9.0	18.9	25.9	20.6	56.5	67.4	60.9	37.2	51.6	42.0
Blue-collar workers												
1970	97.6	99.4	98.1	90.0	83.2	88.6	53.1	42.1	49.5	78.1	65.7	74.9
1980	93.1	97.1	94.7	83.8	77.5	82.3	51.1	38.1	46.3	70.1	56.9	65.9
1985	90.4	92.0	91.0	81.1	74.1	79.4	43.5	32.6	39.1	62.8	48.4	58.0

SOURCE: ISTAT

1985, while the share of blue collars has declined from 74,9% to 58%.
This pattern is especially striking in agriculture where the number of managers and white collars was only 1,9% in 1970 and is now 9%, affecting both the male and the female portion of the labor force.

2.1.5. Labour force by educational attainment

The previous observations on the professional up-grading of the labour force are confirmed by table 6 which shows its educational attainment. In 1977 more than half (55,9%) of the work force had an elementary school diploma (or less); by 1985 this percentage is down to 37%. At the same time the proportion of workers or potential workers having gone through 13 years of schooling has increased from 39,8% to 57%.
It is of interest to point out that while in 1977 almost 70% of the unemployed fell in the two lowest groups of educational attainment, by 1985 over 75% falls in the second and third group. Among the employed 38,8% has at most an elementary school diploma, while among those in search of employment this percentage is only 21,9%.
In 1984 over 40% of the entrepreneurs and professionals had a University degree, with another 32% having completed secondary school. The same educational groups among managers and white-collar workers account for 15,5% and 49% of the total. Among the independent workers (especially numerous in agriculture, retail trade and personal services), 58,6% have at most completed elementary school; the situation is not dissimilar among family aids (whose presence is conspicuous in the same activity sectors), and blue-collar workers.

2.1.6. Unemployment

The time profile of unemployment in Italy has been remarkably flat until 1975. It was not until the aftermath of the first oil stock that unemployment began to rise: at moderate pace until 1980, more rapidly thereafter inspite of the cyclical expansion of 1982-1983.
In 1985 the unemployment rate reached 10,6% of the labour force, with more than 2,4 million pesons in search of a job (table 7). A confirmation of well known features, it is mainly the women and the young that are bearing the burden of the situation: the number of persons in search of first employment in 1985 is more than three-fold that of 1960; while until 1970 the number of male unemployed exceeded the female component, in the 70's the situation is reversed, and the gap becomes progressively larger. By 1985 the male unemployment rate is 7% while the female conterpart reaches 17,3%.
The age composition of unemployment is displayed in tab. 8: in 1985 59,8% of all the unemployed is in the age group 14-24, roughly the same in relative terms as in 1977 (in absolute figures youth unemployment rises from 927.000 to 1.478.000 in the same period).
Table 9 shows the geographical composition of unemployment and the wide gap

Tab. 2.6 Labour Force by educational level (1977-1980-1985)

	Labour Force			Persons in employment			In search of employment		
	1977	1980	1985	1977	1980	1985	1977	1980	1985
Illiterates or elementary school	55.9	48.5	37.0	57.5	50.2	38.8	35.5	27.8	21.9
Middle school	26.1	30.1	35.6	25.5	29.4	34.6	34.1	39.0	44.1
Secondary school	13.7	16.5	21.4	12.7	15.5	20.3	26.4	29.5	30.7
University degree	4.3	4.9	6.0	4.3	4.9	6.3	4.0	3.7	3.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: ISTAT, Labour Force Survey.

Tab. 2.7 Persons in search of employment by sex 1960-1985 (thousands)

	Unemployed			Persons in search of first employment			Other persons in search of employment			TOTAL			Unemployment rate (a) %		
	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT
1960	428	97	525	192	167	359	101	230	331	721	494	1215	4.8	7.1	5.6
1961	320	93	413	184	165	349	117	229	346	621	487	1108	4.2	7.3	5.1
1962	249	77	326	177	161	338	94	211	305	520	449	969	3.5	6.8	4.5
1963	209	58	267	154	128	282	86	172	258	449	357	807	3.1	5.7	3.9
1964	235	77	312	160	144	304	93	195	288	488	416	904	3.3	6.8	4.3
1965	363	102	465	168	151	319	99	227	326	630	480	1110	4.3	8.1	5.4
1966	369	99	468	203	169	372	107	245	352	678	513	1192	4.7	8.9	5.9
1967	300	85	385	202	176	378	102	241	343	604	502	1106	4.1	8.7	5.4
1968	273	85	358	220	203	423	120	271	391	613	559	1172	4.2	9.5	5.7
1969	232	72	304	231	228	459	116	281	397	579	581	1160	4.0	9.9	5.7
1970	208	61	269	221	228	449	115	278	393	544	567	1111	3.7	9.6	5.4
1971	214	65	279	214	221	435	120	275	395	548	561	1109	3.8	9.5	5.4
1972	203	59	262	303	265	568	153	313	466	659	637	1296	4.6	10.9	6.4
1973	178	70	248	265	250	515	160	380	540	603	700	1303	4.2	11.6	6.4
1974	139	55	194	245	243	488	139	290	429	523	588	1111	3.6	9.6	5.4
1975	167	78	245	256	253	509	133	339	472	556	670	1226	3.8	10.7	5.9
1976	174	80	254	291	310	601	156	409	565	621	799	1420	4.2	12.2	6.7
1977	131	79	210	338	352	690	201	437	638	670	868	1538	4.6	12.5	7.2
1978	126	84	210	381	406	787	178	385	563	685	875	1560	4.7	12.6	7.2
1979	127	97	224	409	450	859	188	415	603	724	962	1686	4.9	13.3	7.7
1980	112	99	211	417	465	882	179	412	591	708	976	1684	4.8	13.1	7.6
1981	120	95	215	463	526	989	216	475	691	799	1096	1895	5.4	14.4	8.4
1982	161	120	281	553	603	1156	195	420	615	909	1143	2052	6.1	14.9	9.1
1983	190	162	352	612	680	1292	190	430	620	992	1272	2264	6.6	16.2	9.9
1984	272	205	477	547	620	1167	194	552	746	1013	1377	2390	6.8	17.1	10.4
1985	277	204	482	597	653	1250	180	560	740	1054	1418	2471	7.0	17.3	10.6

(a) Unemployment rate = $\frac{\text{Persons in search of employment}}{\text{Labour Force}}$ %

SOURCE: ISTAT

Tab. 2.8

Population by age classes, 1977-1985

	LABOUR FORCE				PERSONS IN EMPLOYMENT				PERSONS IN SEARCH OF EMPLOYMENT			
	1977		1985		1977		1985		1977		1985	
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
14-19	1600	7.4	1437	6.2	1121	5.6	788	3.8	479	31.0	649	26.3
20-24	2271	10.5	2816	12.1	1823	9.1	1987	9.6	448	29.0	829	33.5
25-29	2726	12.6	2892	12.5	2509	12.5	2505	12.1	217	14.0	386	15.6
30-39	5322	24.6	6043	26.0	5170	25.8	5708	27.5	152	9.8	334	13.5
40-49	4925	22.8	5145	22.2	4821	24.0	4981	24.0	104	6.7	164	6.6
50-59	3525	16.3	3749	16.2	3455	17.2	3653	17.6	70	4.5	97	3.9
60-64	686	3.2	783	3.4	663	3.3	775	3.7	23	1.5	8	0.3
65-70	375	1.7	215	0.9	356	1.8	212	1.0	19	1.2	2	0.1
More than 70	179	0.8	133	0.6	144	0.7	132	0.6	35	2.3	1	-
T O T A L	21609	100.0	23213	100.0	20064	100.0	20742	100.0	1546	100.0	2471	100.0

SOURCE: ISTAT, Labour Force Survey

Tab. 2.9 Unemployment by geographical area 1977-1985 (thousands)

	NORTH-CENTER					SOUTH				
	Persons in search of employment					Persons in search of employment				
	A	B	C	TOTAL	D (%)	A	B	C	TOTAL	D (%)
1977	128	373	354	855	5.8	82	317	284	683	10.2
1978	126	440	317	883	6.0	84	347	246	677	10.0
1979	120	460	349	930	6.2	104	399	254	756	10.9
1980	118	462	297	877	5.8	93	420	294	807	11.5
1981	124	526	380	1030	6.7	91	463	311	865	12.3
1982	162	626	332	1120	7.3	119	530	283	932	13.0
1983	224	700	325	1249	8.1	128	592	295	1015	13.8
1985	298	650	409	1357	8.7	184	600	330	1114	14.7

A = Unemployed
B = Persons in search of first employment
C = Other persons in search of employment
D = Unemployment rate = Persons in search of employment/ Labour Force (%)

SOURCE: ISTAT, Labour Force Survey

between the Mezzogiorno and the rest of Italy: in the North-Centre the unemployment rate rose from 5,8 to 8,7 between 1977 and 1985; in the South from 10,2 to 14,7 in the same period.
In 1985 the proportion of youth in search of first employment (col. B) on total labor force is 4,15% in the North-Centre, while it reaches 8,1% in the South.

2.1.7 Part-time work and temporary jobs

Part-time work in Italy is much less utilized than in all of the other EEC countries (table 10): in 1983 anly 4,6% of the working positions were covered by part-time workers (against 12,6% in W. Germany, 9,7% in France, 19% in U.K.).
To a large extent this state of affairs was a consequence of the lack of positive legislation (part-time work was never explicitly forbidden) that left large areas of uncertainty as to costs, hiring and firing rules, etc., and to the negative attitude of the unions which only recently have modified their position on the issue of part-time and non-traditional working arrangements.
Part-time position are often held by female workers in the service sectors: relatively speaking this is true also in Italy (out of 100 women employed in the service sectors, 8 were part-timers in 1983), but the difference with other countries is huge (32 in W. Germany, 12 in France, 54 in U.K.; 30 is the EEC-average).
Temporary work refers to the utilization of seasonal contracts: in agriculture, where it is linked with harvesting; in some food and beverage industries; in tourism-related businesses of the service sectors (table A.10-Annex).
Official sources do not clearify the extent to which there may be a statistical overlap between part-time and temporary working positions, due to erroneous reporting.

2.1.8. Multiple job holding

The extent of multiple job holding is almost certainly underestimated by the labor force survey: individuals who hold second or third jobs in the shadow economy would have every incentive not to report it. Others who do not operate in the shadow economy, but hold more than one position without wanting his/her employer to know, may also refrain from reporting correctly.
According to the Labour Force Survey, in 1985 only 199,000 persons (less than 1% of the total work-force) declare to have had held more than one job in the course of one year.
The only alternative sample study aimed at measuring the extent of multiple job holding in the Italian economy (ISFOL-DOXA) dates back to 1974: it was then estimated that 1.068.000 officially employed people held two or more jobs (i.e. 5,5% of the official labor-force). L. Gallino (1975) provided

Tab. 2.10 Persons in employment in 10 EEC countries by sector of activity and full-time/part-time breakdown.1983 (%)

	Agriculture			Industry			Services			Whole economy		
	M	F	TOT	M	F	TOT	M	F	TOT	M	F	TOT
Italy												
Full-time	91.6	77.8	86.7	98.6	94.0	97.5	98.2	92.0	95.9	97.6	90.6	95.4
Part-time	8.4	22.2	13.3	1.4	6.0	2.5	1.8	8.0	4.1	2.4	9.4	4.6
F. R. of Germany												
Full-time	90.4	66.2	78.3	99.3	76.0	93.8	98.0	68.1	83.3	98.3	70.0	87.4
Part-time	9.6	33.8	21.7	0.7	24.0	6.2	2.0	31.9	16.7	1.7	30.0	12.6
France												
Full-time	94.1	64.7	83.4	98.8	88.7	96.4	96.9	79.1	87.9	97.5	80.0	90.3
Part-time	5.9	35.3	16.6	1.2	11.3	3.6	3.1	20.9	12.1	2.5	20.0	9.7
Netherlands												
Full-time	93.9	32.6	82.0	97.0	61.1	92.0	90.5	48.7	72.7	93.1	49.7	78.8
Part-time	6.1	67.4	18.0	3.0	38.9	8.0	9.5	51.3	27.3	6.9	50.3	21.2
Belgium												
Full-time	98.1	83.1	93.7	99.0	91.0	97.5	97.3	77.7	88.9	98.0	80.3	91.9
Part-time	1.9	16.9	6.3	1.0	9.0	2.5	2.7	22.3	11.1	2.0	19.7	8.1
Luxemburg												
Full-time	96.0	61.2	84.5	99.0	87.9	97.8	98.8	82.5	91.6	98.7	82.0	93.3
Part-time	4.0	38.7	15.4	1.0	12.1	2.1	1.2	17.5	8.4	1.2	18.0	6.7
United Kingdom												
Full-time	94.4	48.3	85.1	98.7	73.9	93.2	94.9	54.0	73.6	96.7	57.9	81.0
Part-time	5.6	51.7	14.9	1.3	26.1	6.8	5.1	46.0	26.4	3.3	42.1	19.0
Ireland												
Full-time	96.1	55.0	90.6	98.2	92.5	97.1	97.0	85.4	92.0	97.3	84.4	93.3
Part-time	3.9	45.0	9.4	1.8	7.5	2.9	3.0	14.6	8.0	2.7	15.6	6.7
Denmark												
Full-time	94.5	72.1	90.0	96.5	66.7	89.1	91.0	52.5	69.4	93.4	55.3	76.2
Part-time	5.5	27.9	10.0	3.5	33.3	10.9	9.0	47.5	30.6	6.6	44.7	23.8
Greece												
Full-time	94.3	86.3	90.8	95.6	91.6	94.8	97.9	87.9	94.7	98.3	87.9	93.5
Part-time	5.7	13.7	9.2	4.4	8.4	5.2	2.1	12.1	5.3	3.7	12.1	6.5
TOTAL EEC												
Full-time	93.0	71.2	85.0	98.7	82.0	94.9	96.6	69.7	83.9	97.2	72.4	87.9
Part-time	7.0	28.8	15.0	1.3	18.0	5.1	3.4	30.3	16.1	2.8	27.6	12.1

SOURCE: Eurostat

indirect estimates of the same order of magnitude.

2.1.9. The shadow economy

The Italian debate on the unobserved economy dates back to the early 1970's when several authors of labor market studies pointed out the rapid decline in the labor force participation rate.
During the late 1950's, the official overall participation rate (defined as the ratio of labor force to total population) was nearly 45%, comparable to that of most industrialized countries.
During the late 1960's, it declined to 39%, and by the mid seventies it had dropped to less than 35%, far below the trend of all of Italy's neighbors, let alone of countries like France and the U.S., where female partecipation rates were already rising and have indeed risen remarkably during the last decade. The idea developed that the massive outflow from agriculture - yet far from being completed - might explain a fraction of the decline at the most; the rest would be reflecting increasingly wider segments of the population of working age holding unrecorded jobs of various kinds, and yet claiming not to belong to the active population for fear of losing these jobs.
The main step in the direction of arousing scholars interest was Frey's discovery (1985) of a remarkable increase of work-at-home activity related to the garment industry of Lombardy, which took place simultaneously with a vast reduction of recorded female blue-collar employment.
Numerous field studies and community surveys soon followed up these leads, yielding growing evidence of the importance of semi-hidden labor in all branches of productive activities.
Two ISTAT special surveys on the non-active population (1971, 1975) confirmed that the real participation rate was substantially higher than that revealed by the Labour Force Survey. These surveys provided the basis for the new format of the L.F.S. as initiated in January 1977, which specifically aimed at uncovering activities which previously escaped the ISTAT findings. According to the newly designed survey, the average participation rate in 1977 was 38% rather than 35,9% estimated by the old survey.
The rapid growth of shadow economy is not difficult to explain. On the demand side, payroll tax avoidance (50-60% of basic take-home pay) provided a strong incentive to hire irregular workers. Moreover, labor legislation applying to all firms with more than fifteen employees, still requires that jobs cannot be terminated unless the firm can prove the existence of "a just cause". Various forms of just causes aimed at protecting job security exist in most European countries, although they are nowhere as strict as in Italy. Other cost saving incentives included the avoidance of union contracts, piece rate payment, and retention of unlimited flexibility of labor utilization in terms of working hours and layoffs. On the supply side, too, incentives to conceal the employment status were powerful. Income tax evasion was an obvious one, but the flexibility of working time - especially for women, but also for the young and the aged of both sexes - was equally important for understanding

the seemingly everlasting supply of irregular labor.
One estimate of the irregular labour force - reported in Contini (1979) and reproduced in the following table - puts this number at around 4.6 million in the mid 70's, not counting the irregular jobs of the agricultural sector. This, too, is likely to underestimate the extent of irregular activities. For instance, the number of clandestine working aliens - both seasonal and permanent - appears to have grown rapidly in Italy troughout the 1970's. In default of ad hoc surveys, estimating their number is at best an educated guess. CENSIS (Centro Studi Investimenti Sociali, Rome) puts it at around 1 million for 1978, their presence being concentrated in agriculture, fishing and domestic services. Fishing and the retail trade appear to be dominated by workers of North African origin, while domestic services by the Somali and the Latin and Central Americans (almost all women).

Estimates of nonagricultural "irregular" working activities in the mid-1970's

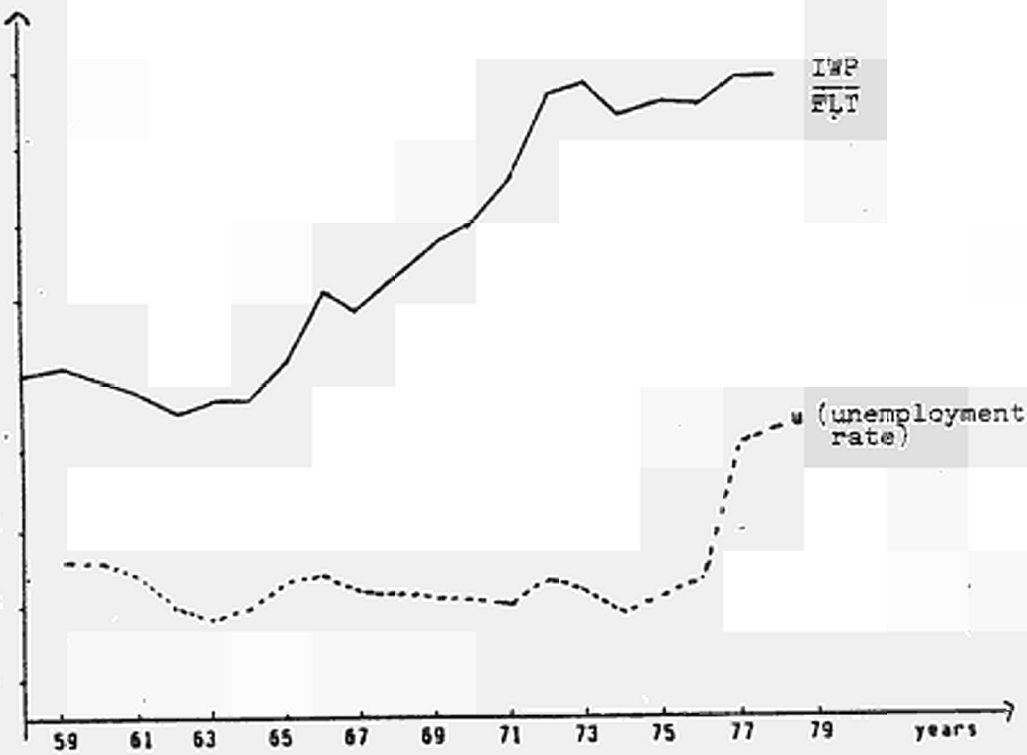
	Million
Manufacturing	1.6
Construction	0.6
Retail and wholesale trade	1.4
Services (other)	1.0
TOTAL	4.6

SOURCE: B. Contini, Lo sviluppo di una economia parallela, Milano (1979)

Contini (1979) has also indirectly estimated the time profile of irregular working positions (IWP) and their proportion to total labour force (IWP/TLF) from 1959 to 1978 (fig. 1).
IWP reached a minimum of 1.6 million in 1962 (at the peak of the boom), more than doubled to 3.8 million in 1972, and widely fluctuated from then onwards around a trend which moved upwards until the end of the Seventies, although at a slower pace than before.
A very conservative estimate of the share of GNP accounted for by irregular labor put it at approximately 7,5% in 1977 (Contini, 1979).

Fig. 1 Time profile of the proportion of irregular working positions and of the unemployment rate

Years	IWP/FLT
1959	9.2
1960	8.9
1961	8.6
1962	8.0
1963	8.4
1964	8.4
1965	9.3
1966	11.1
1967	10.7
1968	11.6
1969	12.5
1970	13.0
1971	14.2
1972	16.4
1973	16.6
1974	15.8
1975	16.1
1976	16.0
1977	16.8
1978	16.7



SOURCE: B. Contini, Lo sviluppo di un'economia parallela, Milano (1979).

Other indirect estimates have been provided by G. Alvaro (1979) who suggested that the share of unrecorded GNP was 14%, and by F. Forte (1979) whose estimate was 15% for 1979, plus another 7% due to underestimation of income generated by residential housing. These estimates also include unreported incomes of professionals, independent workers and shopkeepers, which the labor market studies fail to cover (2).
Other, more recent studies of the shadow economy, come to very different conclusions as to its development in the Eighties.
One contribution, in the traditional labor market approach, is due to L. Ricolfi (3), who suggests - without providing numerical estimates - that the extent of the shadow economy is slowly declining, compared to the level reached in the mid 70's.
Another, more comprehensive, estimate is due to M. Deaglio (4), and is based on a reconstruction of national accounts under various hypotheses on the extent of the shadow economy in all sectors of the economy, including the criminal activities.
Deaglio reaches the conclusion that in 1982 GNP might have been underestimated by as much as 20,3%, due to the presence of shadow activities. No attempt to link his estimate to previous contributions is provided, which makes it difficult to assess its reliability.

2.1.10. Employment and 18 broad occupation: a survey of some cross-classifications

An approximate breakdown of employment by occupation and economic activity branch is available for the Census years. Table 11 contains the 1971 and 1981 cross tabulations, based on 18 occupations: some are defined fairly precisely, many are conglomerates of different jobs (for instance, the "operatives in all manufacturing activities"), almost useless for more detailed analysis.
Disaggregated data on 53 and 247 occupations are also available, and will be discussed in ch. 2.11.
The male/female shares of the 18 broad occupations in 1971 and 1981 (table A.17-Annex) confirm the growing role of women in the labor market: in all occupations, skilled or unskilled, the share of female workers increases in the decade 1971-1981. It is worth noting six occupations where the female presence has made especially noticeable progress:

Tab. 2.11 Occupations by economic activity branches, 1971-1981 (thousands)

	Agriculture			Energy, water			Mining and manufacturing			Building			Trade			Transport, communications			Banking, insurance			P.A. and services			TOTAL		
	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%	1971	1981	Δ%
Education professions																						679	1055	+55.4	679	1055	+55.4
Literary, artistic, sports occupations							12	25	+108.3				1	4	+300.0	4	...	-		16	+	40	55	+37.5	57	100	+74.4
Health professions				...	...		13	5	-61.5	2	...	-	19	33	+73.7	2	1	-50.0	...	...		322	585	+81.7	358	604	+68.8
Jurists																				49	+	51	9	-82.4	51	57	+11.8
Agronomists, veterinarians, biologists	9	6	-33.3				1	1	-				...	1	+					7	+	6	35	+150.0	16	29	+81.2
Engineers, scientists, technicians	2	...	-	4	11	+175.0	80	95	+18.8	34	34		3	3		3	7	+133.3	2	116	+5750.0	67	42	-37.3	194	309	+59.2
Statisticians, economists, accountants				...	1	+	1	3	+200.0	2	...	-	1	1		...	1	+	1	46	+4500.0	14	5	-64.3	18	56	+205.8
Production superv. and general foremen	1	2	+100.0	10	22	+120.0	114	182	+59.6	10	19	+90.0	9	25	+177.8	17	31	+82.4	4	22	+450.0	35	64	+82.9	200	367	+83.3
Managers, administr.				1	1		67	65	-3.0	51	53	+3.9	10	66	+560.0	12	6	-50.0	4	10	+150.0	5	9	+80.0	150	210	+39.7
Clerical occupations	10	14	+40.0	21	40	+90.5	265	389	+46.8	19	50	+163.2	136	205	+50.7	84	187	+122.6	170	361	+112.4	353	453	+28.3	1058	1071	+60.7
Secreterial occupat.	6	10	+66.7	29	26	-10.3	319	336	+5.3	16	27	+68.8	129	156	+20.9	116	241	+107.8	62	172	+177.4	370	359	-3.0	1048	1328	+26.8
Agriculture occup.	3167	2133	-32.6		...	+	50	5	-90.0	13	3	-76.9	10	6	-40.0							33	18	-45.5	3264	2165	-33.7
Operatives in all manufacturing activ.	11	37	+236.4	8	36	+350.0	4678	4274	-8.6	94	123	+30.9	67	525	+683.6	39	48	+23.1		4	+	43	64	+48.8	4941	5111	+3.4
Operatives in building	4	15	+275.0	71	92	+29.6	362	319	-11.9	1779	1485	-6.5	17	58	+241.2	47	72	+53.2		...	+	40	56	+40.0	2321	2097	-9.6
Sales, catering, lodg. services occupations	2	4	+100.0		1	+	22	50	+127.3		1	+	2062	2288	+11.0	18	13	-27.8	23	51	+121.7	56	68	+21.4	2183	2475	+13.3
Transport occupations	13	12	-7.7	4	5	+25.0	95	111	+16.8	37	47	+27.0	55	66	+20.0	631	615	-2.5	1	8	+700.0	26	50	+92.3	862	915	+10.8
Services occupations	9	7	-22.2	5	6	+20.0	53	55	+3.8	7	4	-42.9	11	45	+309.1	30	34	+13.3	18	59	+227.8	912	1063	+16.6	1045	1273	+21.8
Other professions (*)																				...	+	386	395	+2.3	386	395	+2.3
T O T A L	3235	2240	-30.8	154	241	+56.5	6134	5915	-3.6	2063	1845	-10.6	2531	3484	+37.7	1002	1255	+25.2	284	920	+223.9	3430	4345	+26.7	18832	20246	+7.5

(*) "Other professions" includes: workers in religion; members of the Armed Forces; protective services workers.

SOURCE: ISTAT, Census of Population

Female presence in some occupations (%)

	1971	1981
Literary, artistic, sports	19.3	30.0
Jurists	3.7	10.0
Agronomists, veterinarians, biologists	9.8	20.5
Statisticians, economists, accountants	5.6	21.3
Productions supervisors and general foremen	8.0	13.9
Clerical occupations	28.4	42.1

The first four are independent professions. The last two reflect the increasing number of women workers in middle management and white collar jobs.
Table 12 gives a cross-tabulation of occupations and educational attainment: in some high skill-occupations (notably 5, 7 and 9) there is an apparent down-grading of the educational attainment: the proportion of job holders with University degree is much lower in 1981 than in 1971; by converse the proportion of job holders with secondary school diploma increases very substantially.
This is a consequence of an important innovation in the educational system, whereby "professional diplomas" of short duration have been established in the Seventies, and - more and more - only young people with certified diplomas have been given jobs or admitted to the professions.
Many of the other variations (for instance in 3 and 11) simply reflect the higher educational level of the work-force attained in the 1971-1981 decade.

2.1.11. The "winners" and the "losers"

Ranking 53 occupations (2 digit classifications) by the observed percentage variation in the 1971-1981 period, is a useful initial exercise, (before moving to the more detailed 3-digit classification): the top 12 of the list (table 13) include, not surprisingly, highly skilled professions (starting with "mathematicians, statisticians, etc. ....": ISTAT code 1.8). At the low end - the bottom 12 - we find manual jobs - some quite skilled - all related to declining industries and agricultural activities (with the only exceptions of "clergymen" and "members of the Armed Forces": ISTAT codes 1.3 and 2.4, respectively).
Selecting the "winners" and the "losers" is best done at the 3-digit classification level: here we have data for 247 occupations that can be classified according to various criteria. The simplest one consists of ranking all the jobs whose percentage change between 1971 and 1981 exceeded 100% (table 14). Most of them belong to the service sectors and/or to skilled or highly skilled professions. This is hardly surprising, and confirms well known trends of sectoral and professional evolution.
Table 15 on the other hand, lists the 24 occupations that experienced the largest decline in the 1971-1981 period (all greater than 30% compared to the

Tab.2.12 Occupations by educational level, 1971-1981 (percentage shares)

		Total (100%) N.	University degree	Secondary school	Middle school	Primary school	Literates without primary school	Illiterates
Education professions	1971	679	35.0	62.5	2.0	0.4	0.1	-
	1981	1055	42.0	54.6	2.9	0.5	-	-
Literary, artistic, sport occupations	1971	57	12.2	21.3	29.6	36.9	5.0	1.1
	1981	99	9.9	37.2	32.9	19.6	0.4	-
Health professions	1971	358	31.0	9.6	16.5	42.3	0.7	-
	1981	604	31.2	20.3	32.4	16.1	-	-
Jurists	1971	51	94.2	5.4	0.4	-	-	-
	1981	57	99.3	0.7	-	-	-	-
Agronomists, veterinarians and biologists	1971	16	74.3	25.7	-	-	-	-
	1981	29	57.9	36.3	5.8	-	-	-
Engineers, scientists, technicians	1971	194	29.3	54.9	7.2	6.5	1.9	-
	1981	309	33.9	55.6	8.4	2.1	-	-
Statisticians, economists, accountants	1971	18	92.0	8.0	-	-	-	-
	1981	56	34.5	55.3	10.1	-	-	-
Production supervisors and general foremen	1971	200	6.2	39.7	36.4	17.6	0.1	-
	1981	367	4.7	50.4	35.1	9.8	-	-
Managers and administrators	1971	150	18.5	26.3	20.8	32.9	1.5	-
	1981	210	9.6	32.5	25.3	32.5	-	-
Clerical occupations	1971	1058	10.6	46.4	37.2	5.8	-	-
	1981	1701	10.8	54.3	29.2	5.7	-	-
Secreterial occupations	1971	1048	0.2	14.1	56.4	29.3	0.1	-
	1981	1328	2.5	33.3	47.6	16.7	-	-
Agriculture occupations	1971	3264	0.1	0.7	11.5	32.1	44.0	11.6
	1981	2166	0.5	2.7	13.9	55.1	22.3	5.6
Operatives (skilled and unskelled) in all manufacturing activities	1971	4941	...	1.8	16.8	60.1	20.1	1.1
	1981	5111	0.2	5.1	36.9	52.4	5.1	0.4
Operatives in building industry	1971	2321	...	1.5	10.6	78.7	5.7	3.4
	1981	2097	0.2	5.9	30.3	53.3	8.9	1.4
Sales, catering and lodging services occupations	1971	2183	0.8	5.6	16.4	69.8	5.5	2.0
	1981	2475	1.0	12.3	35.1	46.3	4.9	0.4
Transport occupations	1971	862	0.1	4.2	19.1	71.7	3.8	1.2
	1981	915	0.2	7.5	29.4	56.6	5.9	0.4
Services occupations	1971	1045	0.2	2.0	10.7	80.5	4.4	2.3
	1981	1273	0.8	5.8	28.8	56.6	7.2	0.8
Other professions (*)	1971	386	9.0	13.4	34.0	43.6	-	-
	1981	395	5.2	18.3	55.7	20.8	-	-
T O T A L	1971	18832	3.7	9.1	18.1	51.2	14.7	3.1
	1981	20246	5.8	17.4	30.4	39.5	5.9	1.0

(*) "Other professions" includes: workers in religion; members of the Armed Forces; protective services workers.

SOURCE: ISTAT, Census of Population

Tab. 2.13 Ranking of percentage changes 1971-1981 of 53 occupations (2-digits ISTAT classification)

	ISTAT classif.	Occupations	% change 1971-1981	Census 1981
1	1.8	Statisticians, mathematicians, economists and accountants	+205.8	56494
2	9.9	Professions not elsewhere classified	+180.6	5864
3	9.2	Social workers, translators and interpreters, astrologers	+128.2	33403
4	8.3	Aircraft pilots, air transport service supervisors, air traffic controllers	+110.1	10228
5	9.3	Fashion models, hostesses, touristic guides and related workers	+ 92.4	7179
6	1.6	Agronomists, veterinarians and biologists	+ 84.6	29201
7	1.9	Production supervisors and general foremen	+ 83.3	366546
8	1.2	Authors, journalists, artists and related workers	+ 77.4	99512
9	1.4	Medical doctors, pharmacists, midwives, nurses and related workers	+ 68.8	604060
10	2.2	Clerical supervisors, government executive officials and related workers	+ 60.7	1700740
11	1.7	Phisical scientists, architects, engineers, chemists, draughtsmen, surveyors and related technicians	+ 59.2	309282
12	1.1	Teachers	+ 55.4	1054916
13	9.7	Services workers n.e.c.	+ 45.3	14702
14	9.5	Street-sweepers and cleaning services workers	+ 43.6	117174
15	7.3	Working proprietors (hotels and restaurants)	+ 42.1	227190
16	2.1	Managers, legislative officials and government administrators	+ 39.7	209840
17	7.2	Salesmen, shop assistants, commercial travellers, sales supervisors	+ 33.2	710917
18	4.3	Blacksmiths, toolmakers and machine tool operators	+ 30.3	1083610
19	2.3	Clerical and related workers	+ 26.8	1328079
20	7.4	Cooks, waiters, bartenders and related workers	+ 25.7	401654
21	9.6	Maids, concierges, janitors, vergers	+ 21.1	841752
22	5.5	Tanners, fellmongers and pelt dressers, shoemakers and leather goods makers	+ 18.3	302298
23	6.2	Electrical fitters and other electrical workers	+ 17.8	491245
24	9.1	Cinemas and theatres working proprietors	+ 16.9	10568
25	6.3	Plumbers, gas workers, thermo hydraulic workers	+ 16.8	166868
26	1.5	Jurists	+ 11.5	57216
27	8.1	Land transport equipment operators	+ 9.7	703950
28	2.5	Protective services workers	+ 9.5	283291
29	4.5	Structural metal preparers, welders and sheet-metal workers	+ 9.4	323592
		TOTAL WHOLE OF ITALY	+ 7.5	20246337

Tab. 2.13 (cont'd)

	ISTAT classif.	Professions	% change 1971-1981	Census 1981
30	5.7	Chemical processers, rubber and plastics product makers	+ 6.3	273385
31	9.4	Hairdressers, barbers and launderers	+ 5.9	242292
32	5.9	Quality inspectors, packers, canners and bottlers	+ 4.0	66061
33	5.8	Paper preparers and product makers, printers and photographers	+ 3.4	225885
34	5.1	Food and beverage processors	+ 2.4	289295
35	4.4	Machinery fitters, machine assemblers and precision instruments makers	+ 1.1	712354
36	8.2	Ship's officers and pilots, ship's equipment operators	- 0.4	57137
37	7.1	Working proprietors (wholesale and retail trade)	- 3.0	1135123
38	8.5	Dockers and other transport equipment operators	- 5.6	136975
39	3.3	Forestry workers	- 6.6	18939
40	5.6	Wood treaters, cabinetmakers and related wood workers	- 6.8	511588
41	5.4	Tailors, dressmakers, sewers, upholsterers and related workers	- 7.3	610358
42	2.4	Members of the Armed Forces	- 8.1	87742
43	4.2	Furnacemen, metal rolling-mill workers and related workers	- 8.5	123778
44	4.6	Stone, glass, ceramics workers	- 9.1	214650
45	5.3	Spinners, weavers, dyers and related workers	- 11.4	317628
46	6.1	General supervisors, bricklayers, carpenters and other construction workers	- 18.3	1439176
47	3.2	Agriculture and animal husbandry workers	- 24.5	1014219
48	1.3	Workers in religion	- 26.8	23550
49	3.4	Fishermen, hunters and related workers	- 27.4	34604
50	4.1	Miners, quarrymen, well drillers and related workers	- 29.8	43068
51	3.1	Farmers, farm managers and supervisors	- 40.8	1096794
52	8.4	Transport equipment charterers and related workers	- 47.8	6768
53	5.2	Tobacco preparers and tobacco product makers	- 58.4	13599

SOURCE: ISTAT, Census of Population

Tab. 2.14 "WINNERS": Occupations that have experienced a percentage increase greater than 100% in the decade 1971-1981

		ISTAT classif.	Change % 1981-1971	Census 1981
1	Sales supervisors	7.21	+381,8	19.374
2	Astrologers and fortune tellers	9.23	+343,3	1.977
3	Biologists, zoologists and related scientists	1.63	+318,7	6.766
4	Air transport service supervisors	8.33	+300,8	4.709
5	Analysts and computer programmers	2.26	+281,5	33.895
6	Fashion and artistic models	9.32	+251,8	897
7	Statisticians, mathematicians and economists	1.81	+251,6	4.279
8	Orthopaedic appliances and dental prosthesis makers and repairers	4.43	+226,6	11.224
9	Osteophats, chiropractors, orthopaedic technicians, etc.	1.48	+222,5	49.093
10	Electronic computer operators	2.34	+207,7	34.845
11	Accountants	1.82	+202,6	52.215
12	Bookkeeping and calculating machine operators	2.32	+198,1	11.231
13	Working proprietors (wholesale and retail trade)	2.12	+187,1	44.535
14	Stationary engine and related equipment operators	6.34	+154,2	18.973
15	Special education teachers	1.16	+149,1	120.198
16	Art directors, coreographers, motion picture directors	1.23	+148,4	5.171
17	Architects	1.75	+148,1	20.063
18	Engineering technicians	1.77	+135,1	47.610
19	Bookkeepers, cashiers and related workers	2.29	+134,3	471.997
20	Telephone and telegraph installers	6.25	+130,9	49.129
21	Translators and interpreters	9.22	+128,9	10.112
22	Antropologists, historians and related workers	1.17	+119,3	1.542
23	Social workers	9.21	+118,1	21.314
24	Secondary education teachers	1.12	+111,9	186.920
25	Managers (wholesale and retail trade)	2.15	+107,7	10.703
26	Specialised physicians and surgeons	1.42	+104,2	14.843

SOURCE: ISTAT, Census of Population

Tab. 2.15 "LOSERS": Occupations that have experienced a percentage decrease greater than 30% in the decade 1971-1981

		ISTAT classif.	Change % 1981-1971	Census 1981
1	Tobacco preparers	5.21	-75,7	6.186
2	Animal and animal-drawn vehicles drivers	8.16	-73,0	1.039
3	Forwarding agents	8.42	-65,2	6.956
4	Charcoal-burners	3.32	-53,4	787
5	Sacristans	9.64	-50,1	1.796
6	Coach-body builders	5.65	-45,6	2.031
7	Weavers	5.33	-43,0	71.821
8	Miners and quarrymen	4.12	-42,2	22.099
9	General farmers	3.11	-41,8	897.787
10	Tool makers	4.34	-39,0	26.107
11	Building labourers and related workers	6.19	-38,7	453.831
12	Specialised farmers	3.12	-38,5	153.799
13	Other land transport equipment operators	8.17	-38,0	3.124
14	Other regular soldiers	2.43	-37,2	6.477
15	Brick and tile klinmen and furnacemen	4.65	-37,0	24.717
16	Transport equipment charterers	8.41	-35,7	3.535
17	Conductors, ticket controllers	2.35	-34,5	14.583
18	Tram drivers	8.12	-34,4	7.171
19	Fireworks makers	5.77	-34,2	2.410
20	Parish priests	1.32	-33,1	19.950
21	Millers	5.11	-32,5	11.506
22	Bleachers and dyers	5.35	-32,5	13.038
23	Livestock workers	3.24	-32,3	27.383
24	Matches makers	5.76	-31,1	1.037

SOURCE: ISTAT, Census of Population

1971 level).

2.1.12. Italy's "new professions": a study by R. Monducci and M. Scarfone (5)

A study prepared by R. Monducci and M. Scarfone for the Fondazione Brodolini (1985) is, for the time being, the only nation-wide study, comparable in scope (not in size and level of analysis) to the often cited BLS study (6). Their empirical analysis is based on the Population Census 1971 and 1981 (247 occupations: 3-digit ISTAT classification). As already mentioned in ch. 2.10 and 2.11, published cross-tabulations of professions by sectors are much more aggregated (53 jobs by 14 sectors). This obviously limits the significance of the exercise and leaves unanswered many of the most crucial questions.
For example, as the authors note, it is impossible to disentangle the employment performance of "analysts and programmers" because they are included in one of the 53 large professional categories, namely "administrative employees". Nonetheless the study is commendable and probably near the best that can be done with published official data.
A simple shift-share model can be applied to yield a breakdown of the variation 1971-1981 of the number of job holders in each profession.
The underlying model is as follows. Let:

- n_{81} and n_{71} be the total work force in 1981 and 1971;
- A_{81} and A_{71} be two matrices (53x14) whose columns represent the shares of each of 53 occupations in each of 14 sectors of the economy, in 1981 and 1971 respectively;
- B_{81} and B_{71} be two (14x1) vectors indicating the sectoral composition of total work force in 1981 and 1971;
- P_{81} and P_{71} be two (53x1) vectors with the (absolute) number of job holders in each occupation in 1981 and 1981.

Then, by definition:

$$(1) \quad P = P_{81} - P_{71} = n_{81} A_{81} B_{81} - n_{71} A_{71} B_{71}$$

which can be written according to the following decomposition:

$$(2) \quad P = n_{81} (A_{81} - A_{71}) B_{81} + n_{81} A_{71} (B_{81} - B_{71}) + (n_{81} - n_{71}) A_{71} B_{71}$$

The three terms of (2) may be easily recognized as:

- $n_{81}(A_{81} - A_{71})B_{81}$ = variation due to changes in the professional mix;
- $n_{81} A_{71}(B_{81} - B_{71})$ = variation due to changes in the sectoral mix;

- $(n_{81} - n_{71})A_{71}\ B_{71}$ = variation due to the change in total employment.

Table 16 shows the decomposition as in (2), while table 17 provides the rankings of 53 occupations according to their "mix" and "sectorial" positions.
Among the winners we find technical professions such as mathematicians, statisticians, airplane pilots; professions pertaining to health care services (doctors, pharmacists, nurses); other highly qualified professions belonging to the service sector (e.g. journalists), but also mid-level professions (again belonging to the service sector) such as interpreters and translators, and unskilled professions, such as street cleaners, shop-clerks, doormen, cooks and waiters.
Among the losers, not surprisingly, we find a large number of manual workers. There are, however, some exceptions: electrical fitters, electrical technicians, radio technicians, structural metal preparers, shoemakers and leather good makers.
The relative bad performance of manual workers is mainly due to the professional mix effect, rather tran to a decline in the industrial work force, i.e. the number of blue collar positions is decreasing in absolute and relative terms compared to the white collars even if one confines the analysis to agriculture and manufacturing.

2.1.13. Some additional insights on the "winners" and the losers based on geographically disaggregated data

Nation-wide data on the emerging and declining professions are an obvious starting point for analysis, but they may hide a great deal of predictive information on future trends. Occupation trends in large and modern metropolitan area - Milan is the obvious candidate - begin to shape several years in advance with respect to the less advanced regions of the country. It is only natural that - by and large - trends in Italy will eventually follow the leads established by its more dynamical regions.
We have selected some of the fast growing and declining occupations in ten urban areas ("province") (data in table A.20-Annex), representative of different regions and developing patterns (8):

North-West	North-East and Center	Mezzogiorno
Torino	Bologna	Napoli
Milano	Vicenza	Pescara
	Pisa	Bari
	Roma	Catania

Tab. 2.16 Decomposition of employment by occupations

COL1	DELTA	MIX	SET	OCC
1.1	376038	39693	285393	50952
1.2	42458	14704	23472	4282.1
1.3	-9646	-25860	14798	2416.4
1.4	246151	85166	134123	26862
1.5	5903	-44772	46824	3851.2
1.6	13388	12995	-793.71	1186.9
1.7	115032	56744	43709	14579
1.8	38024	22943	13690	1386.2
1.9	166569	140667	10893	15009
2.1	59600	54098	-5774	11276
2.2	642544	413077	150046	79421
2.3	290488	77406	124857	78625
2.4	-7738	-14617	-287.06	7166.1
2.5	24528	5885	-777.97	19421
3.1	-756108	-186504	-708670	139066
3.2	-329128	47962	-477912	100823
3.3	-1343	2958.4	-5823.6	1522.2
3.4	-13056	1595.2	-18228	3577
4.1	-19287	-12076	-10815	4604.9
4.2	-11542	-17886	-3812.6	10156
4.3	251767	159415	30919	62433
4.4	7562	-74643	29308	52897
4.5	27742	-6631.9	12169	22205
4.6	-21539	894.21	-40160	17727
5.1	6806	99.062	-14495	21202
5.2	-19061	-19860	-2652.6	2451.2
5.3	-40874	-39367	-28413	26907
5.4	-47988	-54493	-42906	49411
5.5	46736	44149	-16540	19177
5.6	-37304	-35388	-42612	41196
5.7	16222	28952	-32031	19301
5.8	7448	4186.5	-13133	16394
5.9	2040	-57.622	-2707.4	4805
6.1	-321452	-151363	-302229	132141
6.2	78175	34907	7965.7	31302
6.3	23987	18541	-5277.8	10724
7.1	-35361	-300566	177356	87849
7.2	177189	48134	88997	40058
7.3	67326	32022	23305	11998
7.4	92244	1596.6	56685	23973
8.1	62312	-65573	79728	48157
8.2	-238	-13750	9206.2	4306.2
8.3	5361	4131.4	864.27	365.28
8.4	-6203	-10261	3084.8	973.52
8.5	-8183	-36972	17895	10895
9.1	1528	-4095.9	4945.6	678.33
9.2	18770	14339	3333	1098.3
9.3	3449	2414.8	754.24	279.95
9.4	13593	-109686	105115	17165
9.5	35199	-5817.2	34864	6152.5
9.6	146924	-144274	239049	52149
9.7	8599	1055.1	2773.8	759.09
9.9	3778	3291.5	329.93	156.56

COL1 = ISTAT code of occupations (See Tab. A 16 in Statistical Annex)
DELTA = Absolute variation of the occupations
MIX = Variation due to changes in the professional mix
SET = Variation due to changes in the sectoral mix
OCC = Variation due to changes in total employment

SOURCE: R. Monducci, M. Scarfone

Tab. 2.17 Ranking of occupations based on the "mix" and "sectoral" scores

Note: for translation of ISTAT occupational categories, see Tab. A 16 in Statistical Annex

ISTAT CODE	Occupations	(1)	(2)
1.2	SCRITTORI,GIORNALISTI,...	35	39
9.9	PROFESSIONI NON ALTROVE CLASSIFICABILI	49	24
9.3	INDOSSATORI,ASSIST. VOLO.,GUIDE TURIST.,...	43	29
9.2	ASSIST. SOC.,INTERPRETI,TRADUTT.,GRAFOLOGI	44	28
8.3	PILOTI,MOTORISTI,ADDETTI TRASP. AEREI N.A.C.	45	27
2.2	IMPIEGATI AMMIN.,DIRETT.,DI CONCETTO	42	30
1.8	MATEMATICI,STATIST.,ECONOM.,COMMERC.,	40	32
1.4	MEDICI,FARMAC.,OSTETR.,INFERMIERI,...	34	38
1.7	FISICI,CHIM.,GEOM.,PERITI,DISEGN.,CART.	38	33
1.6	AGRONOMI,VETERINARI,BIOLOGI	51	20
9.7	ADDETTI AI SERV. NON ALTROVE CLASSIFICATI	30	40
1.9	IMPIEGATI TECNICI	47	23
7.2	ASSISTENTI VENDITA,COMMESSI,RAPPRES. COMM.,...	32	37
1.1	PROFESSORI,INSEGNANTI,...	27	42
7.3	ESERCENTI DI ALBERGHI,CAFFE',...	37	31
2.3	IMPIEGATI AMMIN. CON MANSIONI ESECUTIVE	33	35
2.1	IMPRENDIT.,DIRETTORI IMPRESE E P.A.	49	19
4.3	FABBRIF.,TORNIT.,INCIS.,ORAFI,ARGENT.,...	41	26
7.4	PORTIERI,CUOCHI,CAMERIERI,BARISTI,...	25	41
9.5	SPAZZINI,PULITORI,...	22	43
5.5	CONCIATORI,CALZOLAI,PELLETTIERI,...	50	15
6.3	GASISTI,IDRAULICI,TERMOIDRAULICI	46	17
6.2	ELETTRIC.,ELETTROTECNICI,RADIOTECNICI,...	36	25
9.6	DOMESTICI,PORTIERI,BIDELLI,GUARDIANI,...	15	45
8.1	MACCHINISTI FERROV.,CONDUC. TRAM,AUTISTI,...	13	44
1.5	MAGISTRATI,AVVOCATI,NOTAI	5	52
9.1	ESERC. E GEST. CINEMA,TEATRI,AG. FORNIT. SERV.	8	49
9.4	BARBIERI,PARRUCCH.,SMACCHIATORI,...	4	51
5.7	ANALIZZAT.,PETROLIERI,GOMMAI,PROFUM.,...	52	3
4.5	CARPENTIERI IN FERRO,SALDATORI,...	21	34
8.2	UFFIC. COPERTA,MOTOR.,FUOCH. NAV.,CONDUC. IMB.	1	53
3.3	LAV. FORESTALI,CARBONAI	53	1
8.5	FACCHINI,ALTRI LAVORATORI TRASPORTI N.A.C.	6	47
7.1	ESERCENTI DI NEGOZIO,...	3	50
2.5	MEMBRI CORPI DI POLIZIA E SICUREZZA INT.	31	22
1.3	MEMBRI DEL CLERO,...	7	46
4.4	MECCANICI MONTAT.,RIPARAT. DI PRECIS.,...	2	49
8.4	NOLEGG. MEZZI TRASP.,SPEDIZ.,ATT. AUS. TRASP.	10	36
5.8	CARTAI,TIPOGRAFI,LEGATORI,FOTOGRAFI,...	39	5
3.4	PESCATORI,CACCIATORI,...	28	7
3.2	LAV. AGRIC.,CONDUC. MACCH. AGRIC.,PASTORI	29	6
5.2	SELEZIONAT.,CONDIZ.,CONFEZIONATORI TABACCO	14	18
4.1	SONDATORI,PERFORATORI,MINATORI,...	18	14
5.9	VERIFICATORI,IMBALLATORI,...	23	8
3.1	CONDUTT. E DIRETT. AZ. AGRIC.,FOR.,ZOOT.	20	11
4.6	FRANTUMAT.,CERAMT.,OPERAI MIN. NON METALL.	26	4
2.4	MEMBRI CORPI ARMATI DELLO STATO	9	21
6.1	CAPIM.,MURAT.,DECOR.,CONDUTT. MACCH. EDILI,...	19	10
5.3	FILATORI,TESSITORI,TINTORI,...	16	13
4.2	FONDITORI,LAMINATORI,...	11	16
5.6	SEGATORI,TORNITORI,FALEGN.,MOBILIERI,...	17	9
5.1	PANETT.,PASTAI,DOLC.,MACELL.,CASARI,VINIF.,...	24	2
5.4	MAGLIERISTI,SARTI,CAPPELLAI,TAPPEZZ.,...	12	12

(1) Ranking by professional mix
(2) Ranking by sectoral mix

SOURCE: R. Monducci, M. Scarfone.

The trends are fairly similar in most of the selected province.
There are, however, interesting differences that are worth considering in some detail. Among the nation-wide declining professions we find a few notable exceptions:

Professions	"province" where employment is still increasing
2.31 (typists and stenographers)	Vicenza, Pescara, Bari, Catania
4.2 (foundrers, forgers)	Pisa, Pescara, Bari, Catania
4.32 (lathe and boring machine operators)	Vicenza, Napoli, Bari, Catania
5.5 (tanners, leather and skin cutters and assemblers)	Vicenza, Pisa, Pescara, Bari

Vicenza, Pisa, Pescara, Bari, Catania are typical examples of the small-middle size urban areas outside of the traditional industrial triangle "Milano-Torino-Genova" that have experienced a decade of rapid industrialization and high growth in recent years. In a way they are all going through the initial stages of industrial take-off, and this explains the delay in adjusting the occupational mix to the rest of the country. While the occupational categories 4.2, 4.32, 5.5 are skilled blue-collar positions that reflect area-specific specialization patterns, the category 2.31 (typists and stenographers, also including all kinds of low-level secretaries) is indicative of the rapidly expanding demand for general white-collars in areas where - in the sixties - farming and traditional services still carried much more weight than modern industry.
In forecasting future patterns of occupational needs, it is not risky to venture the guess that in few years many differences between the periphery and the centre will have vanished.

2.1.14. Employment growth by firm size

Recent studies of industrial demography based on data provided by the Istituto Nazionale Previdenza Sociale (INPS) (9) have made it possible to estimate the contribution to employment changes of large firms vs. small firms.

Preliminary results indicate that in the period 1978-81 net job gains were due almost exclusively to the vitality of the small firms.

We can obtain a breakdownn of employment variations into two components:

a) variations due to size changes of expanding and/or contracting firms;

b) variations due to the net creation or elimination of jobs by firms born or closed in the observation period.

Table 18 shows estimates of the breakdown of employment changes. In the 1978-81 period total industrial employment remained practically stable (going from 6,537 thousand to 6,536 thousand): the (b) component accounts for +29.000 jobs per year (mainly attributable to firms with less than 10 employees), while the (a) component shows an average annual loss of 30.000 jobs.

Tab. 2.18 Breakdown of employment variations in manufacturing industry in Italy. Annual averages 1978-1981 in thousands

	North West	North East	Centre	South	Italy
(a) employment variations due to expansion/contraction of existing firms	-39	+11	+1	-3	-30
(b) excess (+/-) of jobs created by newly born firms over those eliminated by closures	+10	+7	+8	+4	+29
total employment variations (**)	-29	+18	+9	+1	-1

(**) estimated from quarterly ISTAT Labour Force Survey.

Employment variations (a) (attributable to expansion and/or decline of existing firms) are negative in the N.W. and South, positive in the N.E. and marginally positive in the Centre. The net balance due to the birth-death process is, on the other hand, always positive. In the N.W. the difference is a long way from counter-balancing the loss of jobs in existing firms, while in the South the two components are fairly equally matched.

In the three-year period 1981-1984, employment change in manufacturing has been -201 thousand units/per year on average.
We may obtain an order of magnitude of the employment breakdown on the basis of two alternative hypotheses on the size of (a), the employment variation due to the expansion/contraction of existing firms. A somewhat optimistic estimate (hypothesis I) suggests that the (a)-component may have been similar to that observed in the previous 1978-1981 observation period (-30 thousand/year); according to a more pessimistic view (hypothesis II) - more realistic in our opinion - job losses among existing firms may have been three times as large (-90 thousand/year). Table 19 indicates the estimated breakdown of employment changes in the two hypotheses I and II.

Tab. 2.19 Estimated breakdown of employment variations (1981-1984)

	Hypothesis I	Hypothesis II
(a)-structural variation (due to expansion/ decline of existing firms)	- 30	- 90
(b)-demographic variation (due to birth and death of firms)	-171	-111
Employment change (yearly average)	-201	-201

Under hypothesis I the "demographic" component of job change (b) may have been as low as -171 thousand units/year; under hypothesis II (which - once again - we believe to be more realistic) it is still negative, but less dramatic (-111 thousands units/year).

We may ask at this stage whether these estimates provide a basis for the prediction of employment potential for the next few years, in particular for jobs in small and medium enterprises (S.M.E's). This question requires detailed analysis, currently in progress. We shall therefore confine our remarks to a few general observations.
Employment variations due to changes in the size of existing firms (the (a) component) do not appear to be much influenced by short term changes in the business cycle. This component is mainly related to the complex processes of reorganisation of many industrial sectors which have characterized the last

decade.
On the other hand, the (b) component is more likely to be strongly influenced by short term movements of the economy. Birth rates of manufacturing firms are high throughout the whole four year period 1978-1981, with a peak in 1980 in all sectors (about twelve months after the year of maximum industrial expansion of the decade). The death rates, on the other hand, seem to be less sensitive to the general economic climate.
All these indications suggest that the contribution of the SME's to job creation in manufacturing cannot be taken for granted (as many tend to believe).
It is almost certain that in 1981-1984 such contribution has turned negative, after a few years of moderately positive performance.
It is true, however, that these observations on employment prospects by firm size refer only to manufacturing. A similar demographic survey of the service sector will be available by the end of 1986.

2.2. Forecasting occupational profiles

2.2.1. Projection of labour force

Long run projections of Italy's labour force based on a demographic model have been prepared by M. Bruni and the late R. Franciosi (10). The forecasting scheme is based on a demographic model in which all potential partecipants to the labour force are grouped in age-by-sex-cohorts, whose development is followed until the term of the century; the partecipation rates are slowly adjusted to the trends prevailing in the rest of Europe, especially with regard to women and young. The resulting estimates describe the pattern of future potential labour supply, rather than the demand-determined ups and downs of actual labour force.
According to this framework, while in 1984 labour force was 23.3 million, it will exceed 25 million by the end of the century. Table 20 indicates estimates of the potential labour force disaggregated by geographical area. The following remarks are in order:

a) male labour supply will slightly increase from 15.1 million (1984) to 16.0 million (1999), as a consequence of the changing age-structure of the population in working age;

b) female labour supply will instead hike from 7.9 million to 9.1 million, mainly because of the increasing participation rate;

c) in the North and Centre there will be a decline of male labour supply towards the end of the century, while in the Mezzogiorno variations will remain positive due to persistent demographic pressure.

All in all, there is not much to be hoped in terms of territorial re-equilibrium between now and 1999: if anything, the North-South occupational unbalance will get worse in the years to come, with increasing chance of a new wave of migrant flows from South to North in search of jobs.

Tab. 2.20/a

POTENTIAL LABOUR SUPPLY. PROJECTIONS 1984-1999 (000)

	north-west	north-east	centre	south	Italy
			1984		
male	4275	2920	2903	5199	15297
female	2469	1649	1535	2316	7969
total	6744	4569	4438	7515	23266
			1989		
male	4318	2954	2943	5534	15749
female	2650	1751	1626	2586	8613
total	6968	4705	4569	8120	24362
			1994		
male	4280	2932	2955	5829	15996
female	2741	1760	1666	2785	8952
total	7021	4692	4621	8614	24948
			1999		
male	4161	2859	2925	6066	16011
female	2726	1778	1675	2961	9140
total	6887	4637	4600	9027	25151

Tab. 2.20/b

PARTICIPATION RATES. PROJECTIONS 1984-1999

	north-west	north-east	centre	south	Italy
			1984		
male	58.44	58.34	55.51	52.02	55.53
female	31.37	30.89	27.59	22.34	27.35
total	44.40	44.17	41.13	36.91	41.04
			1989		
male	59.81	59.79	56.52	53.67	56.90
female	34.00	33.09	29.29	24.26	29.39
total	46.41	45.98	42.46	38.71	42.75
			1994		
male	60.30	60.37	57.22	54.72	57.60
female	35.65	33.67	30.17	25.38	30.44
total	47.48	46.52	43.25	39.83	43.63
			1999		
male	60.08	60.26	57.52	55.37	57.78
female	36.19	34.67	30.71	26.33	31.13
total	47.63	46.97	43.65	40.66	44.07

SOURCE: Ministero del Lavoro e della Previdenza Sociale, La politica occupazionale per il prossimo decennio, vol. II, Roma, Sett. 1985, pp. 30-67.

Tab.2.21 Potential labour supply by sex and age class (%)

	1984					1999				
Age class	N-W	N-E	Centre	South	Italy	N-W	N-E	Centre	South	Italy
MALE										
14-24	16.4	17.1	14.4	19.0	16.5	11.5	11.5	10.8	14.3	12.4
25-54	71.3	69.0	70.5	67.7	70.0	74.0	74.0	74.0	74.0	74.0
over 54	12.3	13.9	15.1	13.3	13.5	14.5	14.5	15.2	11.7	13.6
FEMALE										
14-24	26.1	28.0	23.4	26.3	26.0	16.6	17.3	16.2	21.0	18.1
25-54	66.8	64.0	67.4	63.9	65.5	73.0	73.1	72.8	70.1	72.0
over 54	7.1	8.0	9.2	9.8	8.5	10.4	9.6	11.0	8.9	9.9

SOURCE: Ministero del Lavoro e della Previdenza Sociale, La politica occupazionale per il prossimo decennio, vol. II, Roma, Sett. 1985, pp. 30-67.

2.2.2. Scenarios for new occupations

Medium-term forecasts on the demand for new occupational profiles are not available in Italy.
There are a few quantitative estimates of future needs, but none comes from a well devoleped and coherent model.
A study conducted for ENEA (Ente Nazionale Energie Alternative) in 1985 provides an assessment for the end of the Eighties based on experts' opinions, projections of future needs based on international comparisons, and - probably - a certain amount of optimism in relation to the job creation potential of the public sector.
The methodology of the study was withheld from us, and therefore we can do no better than reproduce their estimates, as they have been made available to the public (table 22). Some of the estimates (especially those relating to private sector-jobs) appear in line with the indications contained in a recent study by the B.L.S. (11). If we restrict attention to the professional profiles that will directly affect the occupational mix in manufacturing (item 5) ENEA estimates 200.000 new positions, which is more than twice as high as the order of magnitude implied by a study of the Fondazione Agnelli on new productive systems (ch. 3.1.1.).
The ENEA forecasts reflect a shared opinion in Italy, namely that in the next few years many new public jobs ought to be provided in activities related to the utilization and preservation of museums, monuments and art-works, and to the preservation of the environment. ENEA predicts 300.000 and 160.000 new jobs respectively in the two sets of activities; the same figures are reported in a recent document by the Ministry of Labour (12).
It is worth mentioning another study by N. Cacace on the emerging professional profiles (13): this provides an interesting qualitative description of trends, with a selection of "winning" and "losing" occupations, but very little in terms of quantitative forecasts. All in all Cacace's conclusion are similar to those reported elsewhere (ENEA, our own tentative assessment at the end of this report).

2.2.3. Local studies

Two studies prepared for the industrialist' associations of Lombardy and Turin provide some insights on forecasts of future needs by manufacturers.
The first reports the results of a sample survey on 3.200 member firms, all active in manufacturing in the Lombardy region (14): personnel managers were asked to indicate future needs of 230 professions between 1985 and the end of 1987. Table A.22 (Annex) summarizes 17 "winning" professions and 9 "losing" professions in the eyes of the respondents.
The benchmark for the indicated percentage change is employment in the sample firms in October 1985.
The results confirm the increasing importance of new technologies, I.T.-related professions, some highly skilled profiles in metal-working technologies, and professions related to the fashion industry (stylists).

Tab. 2.22 New professions for the end of the 80's

	Number of jobs
Energy technicians	200.000
Urban development planers	150.000
Environment technicians	100.000
Laser and laser applications experts and technicians	50.000
Industrial robots technicians	200.000
Special materials technicians	200.000
Biotechnology engineers and experts	200.000
Non destructive controls experts	50.000
Bionics experts	50.000
Health technicians	100.000
Assistance to aged people	100.000
Nuclear medicine technicians	25.000
Dialysis equipment operators	25.000
Diagnostic systems experts	50.000
Cad, Cag and Cam technicians	200.000
C.A.I. technicians	50.000
Marginal land experts and technicians	20.000
Soil stabilization experts and technicians	20.000
Water resources experts and technicians	20.000
Experts in new agricultural technologies	300.000
Pre-school teachers	150.000
Applications of information technology to leisure activities	50.000
I.T. experts and technicians	450.000
Office automation experts	300.000
Technicians and experts in preservation of museums, art work and monuments	150.000
TOTAL nearly	3.000.000

SOURCE: ENEA, Roma (1985).

All the unskilled, traditional, blue-collar occupations are indicated as those destined to be severely cut down in the near future.
The second study was conducted in 1985 on a sample of firms of the Torino area (15). Table A.23 (Annex) is self-explanatory: most firms expect to reduce current employment levels; at the same time all declare to have openings for highly skilled blue-collar and white-collar professions (unfortunately no detail is provided).

NOTES CHAPTER 2

(1) For a balanced and comprehensive view, see M. Paci, Mercato del lavoro e classi sociali in Italia, Bologna, Il Mulino (1973).

(2) Italian authors have applied the term irregular economy in a sense which is somewhat narrower than other definitions which have occasionally been suggested. The following classificiation by type of activity provides a useful framework (Barthelemy 1981):
a) Household production and non-market activities
b) Irregular working activities
c) Work performed by clandestine workers and minors
d) Criminal activities
Studies of the Italian labor markets (like Contini, 1959) refer only to activities (b) and (c), as these are the categories most likely to be affected by labor legislation and fiscal incentives.

(3) L. Ricolfi, "Part time ed economia sommersa", MICROS, vol. 3, (1984), pp. 35-42.

(4) M. Deaglio, Economia sommersa e analisi economica, G. Giappichelli, Torino (1985).

(5) R. Monducci, M. Scarfone, Le nuove professioni in Italia, Fondazione Brodolini, Roma (1985).

(6) R. Kutscher, "Factors influencing the changing employment structure of the United States", in IRER (ed.), Tecnologia, professioni e città, Milano, F. Angeli (1985).

(7) The authors, however, quite correctly point out that also the sectoral mix is heavily influenced by technical change.

(8) The attributes "increasing" and "decreasing" in table 24 refer to nation-wide trends. Each provincia may exhibit distinguishing features of its own.

(9) B. Contini and R. Revelli, "Birth and death in Italian manufacturing firms: implications for the study of market forms and job creation", (in Italian) l'Industria, VII, 2 (1986).

(10) M. Bruni and R. Franciosi, "L'offerta di lavoro potenziale nel lungo termine", in Ministero del Lavoro e della Previdenza Sociale, La politica occupazionale per il prossimo decennio, vol. II, Roma, Sett. 1985.

(11) R. Kutscher, op. cit. (1985).

(12) Ministero del Lavoro e della Previdenza Sociale, La politica occupazionale per il prossimo decennio, Roma (1985).

(13) N. Cacace, Professioni e mestieri del 2000, Milano,F. Angeli (1983).

(14) Federazione Regionale fra le Associazioni Industriali della Lombardia, L'occupazione nell'industria lombarda. Situazione, caratteristiche, previsioni, Rapporto annuale 1986, Milano (1986).

(15) Unione Industriale di Torino, Offerta e domanda di lavoro in provincia di Torino: prospettive per il 1987 e il 1990, Torino (1985).

CHAPTER 3

The content of new jobs

3.1. Introduction

This chapter touches upon two sets of arguments.
Ch. 3.1. is devoted to the exemplification of the changing content of jobs in some selected manufacturing and service sectors. Our aim here is not to provide an exhaustive review of all the occupations where job content is changing, but rather to illustrate a few important cases of rapidly evolving professional profiles.
Our discussion of emerging profiles in manufacturing (ch. 3.1.1.) draws heavily on a study by the Fondazione G. Agnelli, I nuovi sistemi produttivi, Turin (1986), which was kindly provided to us.
The remarks on the service sectors are instead the result of interviews conducted by the R&P group in various departments at the Regione Piemonte in early summer of 1986.

Ch. 3.2. takes up the question of the "winning professions" in the 1971-1981 time span, in the attempt to detect the existence of excess demand or excess supply disequilibria in specific job markets.
In ch. 3.2.1 Census data of the "winners" are used in conjunction with informations on the most frequently advertised jobs in 1982-1984. In ch. 3.2.2 Census data are coupled with a survey of new hirings in manufacturing. Comparisons between all these different sources suggest ways to identify mismatches in the job market, and to single out markets characterized by relative excess supply or excess demand.

3.1.1. New content of "manual" jobs in manufacturing

3.1.1.1. We deal here with new jobs and/or new professional contents of old jobs in eight manufacturing sectors, drawing from a study by the Fondazione Agnelli (I nuovi sistemi produttivi, Torino, 1986). This study contains a detailed analysis of current and future technical and organizational innovations in the following manufacturing areas:

1) foundry
2) forging
3) auto-manufacturing
4) electronics
5) rubber
6) plastic materials
7) textiles
8) printing

Table 1 illustrates some newly emerging blue-collar profiles, and the process innovations that have been determinant for their development.
Despite important sectoral peculiarities, some common tendencies seem to emerge. We can distinguish two dimensions along which the job content can be calibrated:

- the intervention area (e.g. monitoring, quality control, repairing, etc.);

- the disciplinary area (e.g. mechanical, electronics, electrical equipment, hydraulics, etc.).

New job contents are induced by the need of multidisciplinary intervention on computers, robots and automatisms: typically, the emerging profile requires a blending of know-how in mechanics, electronics and hydraulics. The area of intervention may still be monofunctional, as is the case of the "mechatronic" (repairing and maintenance).
The trend points also to a multifunctional worker, as in the case of the "system engineer", or, with a less wide scope of control, the "machine operator". These profiles exemplify three new and highly qualified jobs, directly induced by process innovation.
At the other extreme we find the "information operator" (typically, a video-terminal operator, with purely executive assignements) and - in the middle range - the "control operator", where again we can distinguish a process or system operator and the machine operator. The "operator" is viewed - in perspective - as the upgraded equivalent of the assembly-line worker (the central figure in the 60's).

3.1.1.2. All these positions, even at low level, require far more acquaintance with abstract reasoning, languages, symbols and models than was required of the traditional manual worker.
However dramatic the qualitative changes in job contents might be, the quantitative weight of these figures is forecasted to grow slowly. For the next five years, the Fondazione Agnelli indicates the following percentage incidence of new professional figures on the total number of production workers:

	% growth	Approximate number of "new production-workers" positions (*)
Metal-working	10	16.000
Cars	15-20	45.000
Electronics	15-20	6.000
Textiles	5	10.000
Plastics	5	3.000
Rubber	6-10	3.000
TOTAL		83.000

(*) Estimates are based on percentage incidence indicated by Fondazione Agnelli.

By and large these indications suggest that the number of new production-

Tab. 3.1. New professional roles

Sector	Determinant	Emerging tasks
FOUNDRY	- Automation where transfer lines are introduced in the painting phase - Automation in the grit-blasting phase	- Operator for computorized and monitorized systems, authorized to carry out minor repairs - Operators for computorized plant - Mechatronic (maintenance area)
FORGING	- Automation for single machines - Automation for handling	- New tasks might not emerge: automation, itself, would determine a reorganization of tasks. However, it is probable that a multi-specialized professional profile (mechatronic) could emerge in the area of maintenance and an operator (for plant and systems) in the pressing phase
CARS	- FMS Systems for mechanical operations - Automation for the phases of: * sheet pressing * painting (spraying) * assembly	- Operator for computorized and monitorized systems, authorized to carry out significant repairs on the machine - Setter (for the phases of washing, treatment and paint drying) - Mechatronic (maintenance area)
ELECTRONICS	- Automation with the introduction of robot handling	- Operator for computorized and monitorized systems (in the hypothesis of further standardization of components), authorized to carry out urgent repairs on the machine - Increased functional competence (maintenance area) requiring a multi-specialized mntenance profile
RUBBER	- Transfer lines for the manufacture of tyres - Automation in the phases of: * dosing * mixture preparation * raw mixtures (drawing)	- Operator for computorized and monitorized systems, authorized to carry out minor repairs on equipment - Operator for automatized plant controlled by means of television monitors - Mechatronic (maintenance area)
PLASTICS	- Automation for the phases of: * injection moulding * topping	- Operator for computorized and monitorized systems authorized to carry out major repairs on equipment. - Mechatronic (maintenance area)
TEXTILES	- Automation of the phases of spinning (with additional development of handling tasks) - Weaving (controlling the looms) - Finishing (only for continuous lines)	- Operator for computorized plant controlled by means of a television monitor, authorized to carry out minor urgent repairs
PRINTING	- Computorized type-setting	- Evolution of the type-setter's role aimed at the reorganization of tasks to cover management of the computor network and the production process

SOURCE: Fondazione Agnelli.

Tab. 3.2. Professional profiles

Responsibilities	Role	Training	Type of firm
DIRECT PERSONNEL			
Machine-minder	Workers' traditional role with the sole tasks of starting and stopping the machines and minding them	Training in the use of the means of production	Firms with a centralized organization
Skilled-worker	Modest tasks of setting up and adjusting the machines	Training in the use of the equipment and a general knowledge of the technology involved	Traditionally organized medium-sized firms
Specialized worker	Control and detailed repairs on the equipment for which the individual is responsible	Detailed knowledge of the means of production (characteristics, working methods, performance)	Firms with decentralized organizations, with simple information systems (control syatems)
Engineer/operator	Plant operator Systems operator Wide discretionary powers within the area of the plant and the systems for which the individual is responsible	Development of management skills with particular reference to the ability to choose from a variety of possibilities in conditions of stress. Knowledge of the logic of the production process in his control. Training in the use of complex information support systems	Firms with decentralized organizations, with a complex information system
INDIRECT PERSONNEL			
Technician	Traditional professional role. Expert in given areas of production (given kinds of machines, segments of the production process)	A detailed knowledge of the general workings of the equipment for which the individual is responsible	Large firms with a centralized organization
Single-skilled maintenance worker	Traditional role. Maintenance work on various kinds of machine depending on the individual's specialization (hydraulic maintenance, mechanical maintenance)	Detailed knowledge of a specific discipline (mechanics, hydraulics, pneumatics, electronics, etc.). Training in the basic knowledge on one or more machine	Firms with decentralized organization, and fixed flows. Medium-sized firms with asynchronic flows but a centralized organization
Multi-skilled maintenance worker	Emerging professional role (typified by "mechatronic")	"Systemic" knowledge of all the related disciplines (mechanics, electronics, pneumatics). Training in the application of the basic knowledge on one or more machines	Large and medium-sized innovative firms with automated plant and offices.

SOURCE: Fondazione Agnelli.

worker positions might be in the order of 80-85 thousand.

3.1.1.3. The occupational mix of production workforce (direct and indirect) in different organizational environments, and their specific training requirements, are displayed in table 2. It should be noted that the occupational mix of production workers will be basically the same across industries, with most of the differences being related more to the type of underlying horizontal organization (last column of table 2) than to the specific production line.

3.1.2. New occupational profiles in two service sectors (tourism and welfare activities)

3.1.2.1. Services in the tourist and leisure industries

Only since the 60s has tourism in Italy been an expanding industry. Its development can be described as "microcapitalistic" where the entrepreneurial role is low, with the workforce for secondary activities being recruited from the local farm workforce, while members of the family are brought in to satisfy rudimentary managerial needs.
At the moment this sector not only offers a substantial contribution to the balance of payments, but also provides direct employment for more than a million workers, in addition to a large number of "induced" workers. Considered from the point of view of employment opportunities, tourism is characterized by considerable heterogeneity and job instability.
The temporary and seasonal nature of most of the employment in the tourist and leisure industries have, up to now, negatively influenced the image of the profession, causing a great deal of improvisation. However, the recent notable growth of this sector has also been helped by the regrouping of training processes, aimed at creating new and innovating professional roles. This is quite different from what happens in France, where planned state intervention at the seaside and in the mountains, in addition to large private investment (new resorts and marina) has helped to create a real entrepreneurial outlook and has encouraged the training of the labour force both at executive levels and at cadre levels, as well as in new professions (animators, instructors for the various sports practised at the seaside or in the mountains, etc.).

* Professional roles and training processes

New roles and professions, as well as transformed traditional professions, are being introduced due to the influence of the French model of a "village", which constitutes the prototype of innovative intervention in the "leisure" sector.
Initiatives in this direction are being taken by the agencies responsible for professional training and tourism. In Italy the Regions are responsible to discipline the training processes and professional activities organized

and run by other associations.

The professional areas in greater expansion are:

- management and entrepreneurial cadres
- social tourist operators
- leisure operators for various age groups and disabled people
- agri-tourist operators
- Alpine activities; sailing instructors and lifeguards, nature guides, historical tour guides
- tourist intermediaries: agents, couriers
- congress organizers and related activities
- trade fair, show and exhibition operators
- body building instructors
- operators in other leisure activities (not necessarily related to tourism).

3.1.2.2. Regional welfare programs

Italian law recognizes three professional roles in the social services sector:

- the social worker;
- the probation officer;
- the home help.

The Italian state provides three-year courses, at university level, at the end of which a diploma is awarded which qualifies the holder to work for local bodies (local authorities, mountain communities, etc.), magistrates' courts and juvenile courts (courts, rehabilitation centres), local health authorities and specialized departments (accommodation, training for the disabled, help for drug addicts, etc.) education committees (specific instructors, leisure instructors and operators, holiday activities) and other social back-up institutions.
Home help, instead, is the responsability of the regions which are delegated by the state to set up training courses and to assign their management to the local authorities (town councils).
The regions, therefore, acting on behalf of the state, delegate the training processes to the Regional Health Authorities and the management to the local authorities (town councils).
The service provided in the twenty regions in Italy is not uniform throughout the country and varies according to the financial resources available and to the different criteria adopted in allocating the resources between productive and social expenditure. When the budget allows, local authorities turn to the services of cooperatives and external consultants.
The growing need for socio-medical operators in general, and home helps in particular, is felt strongly, at least in the most advanced regions in Italy

(Emilia-Romagna, Lombardy, Marche, Piedmont) but also in smaller territorial areas such as mountain communities. The effective limit to the expansion of these services is financial, although at the moment there is a growing reluctance to extending the role of the National Health Service.
Since it is estimated that the optimum ratio between social workers and inhabitants is 1:500 the potential demand is very high; in fact about 100.000 jobs could be created in these sectors of intervention. The professional syllabus is being revised after an initial period when it was developed empirically, or at least changed to approach the more advanced social systems (French, Swedish, etc.).
The characteristics of this sector of employment are:

- sex: the labour force is primarily composed of women;
- age group: the work fork is qualified and finds employment between the ages of 18 and 35;
- intermediate levels: cadres usually have a secondary school diploma, although university graduates are sometimes chosen;

- continuous training: the cadres employed undertake retraining courses during their career.

The professional role found in the "social" sphere is relatively new to the Italian system. There are no uniform standards among the different regions and authorities, despite the fact that such a professional role satisfies today's growing social needs, above all, in the areas of major difficulties and hardship (care for drug addicts, home help for old people in a society with a progressively ageing population). Therefore, considerable employment opportunities exist for young cadres, above all, for women and the well-educated. The diffusion of these jobs is still being hampered by the lack of a specific legal framework which sets out the access credentials and the method of recruitment, the training processes, the range of professional roles, and the career ladder. Up to now these services have been provided by employing people in the public service on part-time contracts, or fixed period contracts in order to satisfy special needs (holiday activities) or by assigning the service to cooperatives so as to make up for the lack of an institutionalized system.

3.2. Mismatches in the job market

3.2.1. Introduction

Serious problems of adjustment in the labour market have been a feature of the last fifteen years: the skill level of the new entrants to the labour market is often viewed as inadequate by the employers; yet the older workers who lose their jobs in declining industries cannot be retrained to fill other positions. C. Freeman and L. Soete of SPRU have recently stated that in the U.K. alone a shortage of several thousands (!) different skills has been

recognized, while 4 million idle workers are in unemployment (1).
This chapter aims at detecting mismatches in certain occupational categories: the underlying idea consists of comparing available statistical sources and/or survey studies aimed at providing different pieces of information on specific job markets. In some cases we find reading keys that allow to uncover the existence of excess demand or excess supply disequilibria, which carry important policy-relevant implications.

3.2.2. Supply constrained-markets

In the course of ch. 2 we had presented table 2.14 (the "winning" occupations) to which we must now return: it listed 26 jobs whose percentage change between 1971 and 1981 exceeded 100%.
Most of them belong to the service sector and/or to skilled or highly skilled professions. This is hardly surprising, and confirms well known trends and patterns of sectoral and professional evolution.
Data such as those contained in tab. 2.14 are commonly interpreted as reflecting the composition and variation of demand for labour. However, we must be careful in accepting such interpretation without qualifications. In fact, if markets - and specifically job markets - do not clear, then:

$$\text{employment} = \min(\text{demand}, \text{supply}).$$

A binding supply contraint, (i.e. supply < demand, implying employment = supply), usually does not make sense at the aggregate level, but it very much does at the job-market level. As a consequence, the data of Table 2.14 might as well reflect supply's structure and dynamics, rather than demand's. How are we going to identify, then, which side of the market is the binding one?
Answers to such questions are policy relevant, particularly from a "career-advise" perspective. A traditional, "all demand-side" approach, would undoubtedly suggest the jobs listed in tab. 2.14 as those offering most promising occupational and career opportunities.

On the contrary, a "market" approach should recognize that some of those jobs might be characterized by excess supply - thus not very advisable from the supply point of view. Perhaps, more importantly, many promising jobs might not even show up in a table such as table 2.14: this would be the case of jobs where employment is kept low by a supply constraint.
Strictly speaking, with the information conveyed by table 2.14 we simply can't identify the relevant side of the market. We can, however, make a suggestive excercise by comparing tables 2.14 and 3.3. (which follows); the latter contains the most frequently required positions in 1982-1984 (observed via newspaper advertisements) (2). This is explained in the next section.

Tab. 3.3. Demand for skilled professions (based on counts of newspapers advertisements and public contests) 1982-1984

Professions	ISTAT	n.
PRIVATE SECTOR		
- Commercial travellers	7.23	95.356
- Clerical supervisors	2.21	23.369
- Analysts and computer programmes	2.26	17.299
- Manager	2.14	14.335
- Production supervisors	1.91	8.659
- Engineers	1.73-1.74	6.853
- Bookkeepers, cashiers and related workers	2.29	6.739
- Engineering technicians	1.77	5.631
- Draughtsmen	1.78	3.925
- Production general foremen	1.92	3.871
- Accountants	1.82	3.147
- Surveyors	1.76	2.063
- Blacksmiths, toolmakers and machine-tool operators n.e.c.	4.36	1.711
- Electrical fitters	6.22	1.140
- Other managers	2.1	980
- Machinery fitters	4.41	946
- Cooks	7.42	418
- Salesman, shop assistants	7.22	327
- Boring-machine operators, milling-machine operator, lathe operators	4.32	265
PUBLIC SECTOR		
- Clerical supervisors and Government executive officials	2.21	15.293
- Policemen	2.54	13.588
- Professional nurses and other nursing personnel	1.46	12.421
- Army officers	2.41	7.548
- Stenographers and typists	2.31	5.918
- General physicians and general surgeons	1.41	5.883
- Production general foremen	1.92	4.470
- Electronic computers operators	2.34	4.326
- Specialised physicians and surgeons	1.42	4.116
- Vergers, janitors	9.63	4.113
- Headmasters	1.15	3.180
- Bookkeepers, cashiers and related workers	2.29	1.800
- Legal clerks	2.23	936
- Police officers	2.51	854
- Osteopaths, chiropractors, orthopaedic technicians, sanitarians	1.48	770
- Clerical and related workers	2.39	728
- X-ray technicians, optometrists and opticians	1.47	648
- Notary publics	1.53	380
- Midwives	1.45	271

SOURCE: ISFOL.

3.2.3. Demand and supply in job changes

We shall start with a stylized model in which all job-seekers are out of work. Let us consider a given job A. Each weeks, suppose 20 new vacancies are opened for this job. Further assume that the current stock of vacancies and "hunters" (workers looking for type A-job) are 100 and 200 respectively, and that in each unit of time .1% of the potential 100X200 = 20.000 matchings are successful, yielding an employment increment equal to 20. Each vacancy for type A jobs then lasts on the market for 100/20=5 weeks on average, while the average "hunting" duration is 200/20=10 weeks. Now take job B. Numbers are the same as for job A, except for the "hunters", who in this case are 50. Also the matching "technology" is the same as in job A, so that each week .1% of the potential 200X50=10.000 matching are successfully activated, giving an employment increment equal to 10. B-type vacancies lasts on the market for 100/10=10 week on average, while the average "hunting" period is equal to 50/10=5 weeks.
If one looks at the employment variations as demand indicators, then type A-job should be indicated as the most promising. On the contrary a market perspective which correctly accounts for demand/supply interactions would indicate type-B jobs as the most promising occupational choice, both from the "hunters" point of view (since waiting-time is shorter there) and from the employers' point of view (since an increase in supply for type-B jobs would lower vacancy duration, which is now twice the duration in type- A jobs).
In some sense, we can classifly job B as a "supply constrained" occupation, at least with respect to job A.
From the empirical point of view, a type-A case could be discriminated from a type-B case with the aid of information on frequency of advertisements for the two kinds of job. Since vacancy duration is longer for job A, type-A jobs are more likely to show up in a survey of newspaper advertisements.
As anticipated at the end of para. 3.2.2, table 3.3 contains this type of evidence. The comparison between tables 2.14. and 3.3 yields a new table 3.4, whose "framework" is reproduced hereafter:(3)

I	II
"Winning" occupations not listed among those in high demand	"Winning" occupations listed also among those in high demand
IV	**III**
Occupations not listed as "winners" in 1971-81, nor in high demand	Occupations in high demand, but not "winners" in 1971-81

The four entries of this table can be associated with four qualitatively different market regimes.
Jobs in entry I have a large inflow of vacancies which immediately produces a

large variation in employment, since supply is abundant and vacancies are rapidly matched to job-junters. As a consequence these jobs don't show up frequently in newspaper advertisements: vacancies are short and so is the mean ad duration. Jobs in entry I likely reflect the demand side.

Entry III contains the least commonly thought cases.
Here we have jobs which are frequently advertised as positions to fill, without experiencing large employment variations (in fact they might even show negative variations).
We interpret this case as possibly reflecting a binding supply constraint (4).
The inflow of vacancies is large, but job-hunters are rare. The average duration of vacancies is therefore long, and the frequency of newspaper ads high. At the same time, the scarcity of supply limits the amount of successful matchings, and therefore employment increments are small, or even negative (5).

Finally, entry II and entry IV contain jobs listed both in table 2.14 and in table 3.3 or jobs which do not appear in either table, respectively. Entry IV is essentially a residual category. We might therefore classify both entries II and IV as job-markets in (relative) equilibrium. Table 3.4 is presented here below. It is noticeable that most of the jobs listed in entry III are skilled blue-collar positions.

3.2.4. Survey of new hirings in manufacturing industry: Emilia-Romagna, 1984

This survey covers 1642 firms with 124.000 employees: in 1984 new hirings were almost 9000, 30% blue-collars and 70% white-collars and managers. Estimates of 1984 hires at the regional level are given in Table 3.5; the overall estimate of 28.250 new employees is about 8% of the 1981 work-force: 30% of the new employees are in the metal-working and engineering industries, 25% in the consumption goods sector.
The classification of professions is different from the ISTAT classification; meaningful comparisons with other sources can therefore be made only on about 50% of new hirings. The remaining 50% (which includes all the unskilled blue-collar workers) are classified in residual categories with no ISTAT correspondent.
Table 3.5 gives a breakdown by industry and profession of hirings, with all the unskilled positions pooled together at the end of the table. The highest number of hirings is among "general foremen and production supervisors" (1.9), especially in branches 2 (tile manufacturing is highly is concentrated in Emilia-Romagna) and 4 (consumption goods), followed by "administrative clerks and supervisors" (2.2). We find a strong correspondence between the rate of 1984-hirings (col. 4), and the percentage changes observed in the decade 1971-81 (col. 6) in many intermediate to high skill white-collar, managerial and supervising positions:

Tab. 3.4 Mismatches in selected occupations

I	II
- Sales supervisors - Astrologers and fortune tellers - Biologists, zoologists and related scientists - Air transport service supervisors, air traffic controllers - Fashion and artistic models - Statisticians, mathematicians and economists - Orthopaedic appliances and dental prosthesis makers and repairers - Bookkeeping and calculating machine operators - Stationary engine and related equipment operators - Teachers - Art directors, coreographers, motion picture directors - Architects - Telephone and telegraph installers - Translators and interpreters - Social workers - Specialised physicians and surgeons	- Analysts and computer programmers - Osteopaths, chiropractors, orthopaedic technicians - Electronic computer operators - Accountants - Working proprietors (wholesale and retail trade) - Engineering technicians - Bookkeepers, cashiers and related workers
IV	**III**
"Everything else"	- Commercial travellers - Clerical supervisors and - Government'executive officials - Production supervisors - Draughtsmen - Surveyors - Blacksmiths, toolmakers and machine-tool operators n.e.c - Electrical fitters - Stenographers and typists - Machinery fitters - Cooks - Salesmen, shop assistants - Boring-machine operators, milling-machine operators, lathe operators - Midwives

Tab. 3.5 Sample survey of hirings in 1984 in Emilia-Romagna's manufacturing and building industries
Positions in high demand (top 22 professions): population estimates and comparisons with Censuses

Professions	ISTAT classification	Hirings 1984 Sample	Hirings 1984 Population estimate	Census 1981	Percentage ratio (2/3 %)	Census 1971	% change 1981-1971 (3/5 %)
		1	2	3	4	5	6
1 Production general foremen	1.92	494	1.589	13.919	11,4	6.577	+111,6
2 Bricklayers	6.12	405	1.303	55.240	2,4	56.446	- 2,1
3 Production supervisors	1.91	364	1.171	15.189	7,7	8.125	+ 86,9
4 Clerical and related workers	2.39	333	1.071	91.716	1,2	63.610	+ 44,2
5 Clerical supervisors	2.21	301	968	66.052	1,5	54.912	+ 20,3
6 Bookkeepers, cashiers and related workers	2.29	216	695	56.325	1,2	18.047	+212,1
7 Machine assemblers	4.42	206	663	16.838	3,9	9.085	+ 85,3
8 Draughtsmen	1.78	176	566	7.233	7,8	4.170	+ 73,5
9 Machinery fitters	4.41	175	563	41.997	1,3	44.577	- 5,8
10 Reinforced concreters, cement finishers	6.13	131	421	3.732	11,3	3.991	- 6,5
11 Electrical fitters and technicians	6.22-6.23	124	399	33.640	1,2	26.793	+ 25,6
12 Boring-machine operators, milling-machine operators, lathe operators	4.32	113	363	23.474	1,5	23.871	- 1,7
13 Analysts and computer programmers	2.26	112	360	2.835	13,0	511	+454,8
14 Cement and concrete workers	4.61	109	351	1.638	21,4	1.618	+ 1,2
15 Welders and flame-cutters	4.52	97	312	11.484	2,7	10.759	+ 6,7
16 Food and beverage processers	5.1	89	286	46.619	0,6	43.330	+ 7,6
17 Motor-vehicles drivers	8.14	89	286	50.512	0,6	44.575	+ 13,3
18 Earth-moving and related machinery operators	6.17	84	270	5.390	5,0	3.521	+ 53,1
19 Metal furnacemen,melters and reheaters,casters	4.21	54	178	6.206	2,9	6.235	- 0,5
20 Packers, canners, bottlers	5.92	53	170	6.088	2,8	4.748	+ 28,2
21 Tailors, dressmakers, sewers, upholsterers and related workers	5.4	52	167	69.075	0,2	72.245	- 4,4
22 Tile setters and paviours	6.15	51	164	5.848	2,8	4.999	+ 17,0

SOURCE: Federazione dell'Industria Emiliano-Romagnola

- 1.92 General foremen
- 1.91 Production supervisors
- 1.78 Draughtsmen
- 2.26 Analysts and computer programmers

Another way of looking at trend in hirings is as follows: let $s_h^{(i)}$ be the percentage of 1984-hirings (h) in the i-th profession, and $s_c^{(i)}$ the percentage of positions (p) in the i-th profession as given by the 1981-Census:

$$s_h^{(i)} = \frac{h^{(i)}}{\sum_i h^{(i)}} \times 100 \quad ; \quad s_c^{(i)} = \frac{p^{(i)}}{\sum_i p^{(i)}} \times 100$$

The (approximate) equality $s_h^{(i)} \approx s_c^{(i)}$ is indicative of near-equilibrium in the i-th profession: the proportion of i-type hirings in 1984 is close to the overall proportion of i-type jobs in the economy (in 1981). The greater is $s_h^{(i)}$ compared to $s_c^{(i)}$, the higher the demand for i-type jobs relative to other professions.

Table 3.6 classifies the professions that rank high in the list of 1984-hirings according to the relative magnitude of $s_h^{(i)}$ and $s_c^{(i)}$. In addition each profession is ranked according to the percentage change observed in the decade 1971-81 via Census of Population ($r_{71/81}^{(i)}$).
The first block ($s_h \gg s_c$) shows the professions in higher demand, the last block ($s_h \ll s_c$) those for which demand is very weak. The pattern is not unexpected, except for a number of skilled and semi-skilled professions associated with the building industry (6.13, 4.61, 6.17, 6.12, 6.15). It is likely that such hirings reflect a cyclical upswing of construction in the Emilia-Romagna region, rather than a long term pattern of demand for those skills.
The professions found in block ($s_h \gg s_c$) rank high also with respect to $r_{71/81}^{(i)}$, exception made for those associated with the building industry mentioned above. The latter (6.13 and 4.61) could be interpreted in terms of a supply shortage, as in the previous pages (ch. 3.2.2.).

Tab . 3.6

	$(r_{71/81}^{(i)})$
$s_h \gg s_c$	
1.92 General foremen	3
1.91 Production supervisors	4
4.42 Machine assemblers	5
1.78 Draughtsmen	6
6.13 Reinforced concreters, finishers	21
2.26 Analysts and computer programmers	1
4.61 Cement and concrete workers	16
6.17 Earth moving operators	7
$s_h > s_c$	
6.12 Bricklayers, stonemasons	19
4.52 Welders and flame-cutters	15
4.21 Furnacemen, metal melters, reheaters and casters	17
5.92 Packers, canners and bottlers	9
6.15 Tile setters and paviours	12
$s_h \sim s_c$	
2.21 Clerical supervisors and government executive officials	11
4.32 Boring-machine operators, milling-machine operators, lathe operators	18
$s_h < s_c$	
2.39 Clerical and related workers	8
2.29 Bookkeepers, cashiers and related workers	2
4.41 Machinery fitters	20
6.22-6.23 Electrical fitters and related electrical and electronic workers	10
$s_h \ll s_c$	
5.1 Food and beverage processers	14
8.14 Motor-vehicles drivers	13
5.4 Tailors, dressmakers, sewers, upholsterers and related workers	22

NOTES CHAPTER 3

(1) C. Freeman and L. Soete, "Innovation Diffusion and Employment Policies", paper delivered at the Venice Conference on Innovation Diffusion, March 1986

(2) ISFOL, Formazione, nuove tecnologie, professionalità, Rapporto ISFOL 1985, Roma

(3) The comparison must be qualified in two ways:
a) Table 3.5 contains, by design of the survey, only skilled jobs. This represents no limitation, since also table 2.20 - de facto - contains only skilled jobs.
b) Table 2.20 refers to 1971-1981 period, while table 3.3 refers to 1982-1984.
We must therefore assume that at least part of the 1971-1981 period is homogenous to the 1982-1984 period.

(4) Differences in turnover flows across occupations might offer a different - though not esclusive - explanation of table 1. To discriminate among these hypotheses woud require more sophysticated quantitative analysis. Here we just esplore the implications of one of these hypotheses

(5) Two qualifications are in order:
(i) channels of job-matching might be different from those leading to newspaper advertising for some jobs; this does not seem to be an important argument for the majority of jobs included in entry III of table 3.4
(ii) an alternative interpretation is that some of the jobs appearing in Entry III of table 3.4 are spurious aggregations. The jobs most frequently advertised might not be of the same kind as those which experience low or negative employment variations.

CHAPTER 4

New contractual arrangements

4.1. New (non-standard) contractual arrangements

For many years a central theme of the labour market policy debate in Italy has been the need and the way of introducing more "flexibility", and a larger menu of choices both for the households and the firms, into labour market operations and industrial relations. The law 863 (19 December, 1984) represents the institutional translation of the concepts which emerged out of that debate.
Most of the istitutes introduced by this law were not, in fact, forbidden according to previous legislation, but exactly the lack of positive legislation left a large amount of uncertainty, which represented a strong disincentive against the experimentation of non-standard contracts. For example, it was never clear what portion of pension contributions the firm should pay for a part-time worker.
The institutes regulated by the law are the following:

1) "Contratti di solidarietà" (work-sharing agreements)

2) "Contratti di formazione-lavoro" (contracts for training and employment)

3) Part-time contracts

4) "Chiamata nominativa" (selective hiring practice)

A more detailed discussion of each of these institutes is given in the following paragraphs.

4.1.1. Contratti di solidarietà

These are essentially work-sharing arrangements. They come in two versions:

1.a. "Contratti di solidarietà interna" ("internal" work-sharing). Incentives are given to firms that negotiate an agreement with the unions entailing a reduction of the hour-bill and of the wage-bill, in order to maintain the actual level of employment;

1.b. "Contratti di solidarietà esterna" ("external" work-sharing). Incentives are given to firms which hire young workers (aged 14-29) in exchange for a reduction of hours and earnings of the already employed workers. The hirings can be "nominativi" (see ch. 4.1.2.) and the contracts for the young workers must be permanent.

4.1.2. Contracts for training and employment and selective hiring: a short historical digression and their actual forms

Not until 1977 did Italian legislators pass a law aimed at facing the problems of youth unemployment (the old apprentice contract, already completely obsolete, was still in existence but never utilized).
The 1979 bill was approved, under the emotional pressure of social and political unrest. The act was the result of a hasty adaptation of the initial steps of French policies. The whole bundle of possible measures was therefore included in the law, from the lowering of wage costs for the new entrants in the labour market to the contracts for employment and training ("contratti di formazione-lavoro", hereinafter CFL), from the inducement of cooperative firms in agriculture to the initiatives in the field of socially useful services.
What made the 1977 act a collection of labels, rather than a piece of well thought-out legislation, is the fact that its purpose was mainly that of showing that some effort was being undertaken.
Its validity was temporary, yet it was neither prorogated nor replaced after it expired in 1980: in 1983 new policy measures were adopted, and the Law 863 (1984) provided its final institutional framework.
The results of the 1977 bill were very disappointing (although not unexpected). Since job creation in the private sector (trough lower hiring costs and more training) revealed itself as a failure (6.000 contracts in three years), the political and social pressure shifted the major burden upon the public sector. As a result, about 100,000 young were employed through the commissioning of socially useful activities to cooperative firms made by youngs. When the projects expired, however, the youngs belonging to cooperatives were hired directly by the public sector. This event definitely hindered the possibility of renewing the experience of public job creation, since new measures in this direction would have been born with an unsustainable expectation that temporary hirings would have been transformed, sooner or later, in definitive hirings.
The main innovations in the 1984 - version of the CFL (in addition to the almost complete fiscalization of social security contributions, which was already present in the 1977 version) were twofold: the time-nature of the contract (1) and the "chiamata nominativa", i.e. the possibility for firms to selectively hire a given individual and not an unidentified person with certain (self-declared) skills, picked on a "first in - first out" basis from the unemployment records (which has been the rule for firms with more than 10 employees wanting to hire low-intermediate skill personnel).
In the course of 1984-85 over 25.000 young workers have been hired by the private sector via CFL (59% in firms with less than 50 employeer; 2/3 in manufacturing, 1/3 in the services).
More on this in par. 4.2.3. which discusses the results of a case study conducted on a large textile corporation that hired 250 young workers via CFL.

4.1.3. Part-time contracts

As already discussed at length in ch. 2.1.7., part-time work in Italy is still much less utilized than in all other EEC countries (see also table 2.13).
It was then explained that this anomalous situation was largely due to institutional factors:the absence of positive legislation (and a widespread feeling against its utilization by the labor unions) left large areas of uncertainty as to their expected cost, which included the risk of union interference and judiciary action stirred by ambiguous legislation.
In this respect the new legislation enacted at the end of 1984 is a step in the right direction.
A very extensive definition of part-time work is now contemplated:

- a reduced number of hours per day
- a reduced number of days per week
- a reduced number of weeks per month
- a reduced number of months per year

These alternatives, and their various combinaticns may offer interesting opportunities to different segments of the population with different "tastes" or "needs" for allocations of time to work vs. other activities.
Although it is too soon to give a quantitative evaluation of the new institutes, it is worth emphasizing that between 1983 and 1985 the number of male part-timers in Italy increased by 31,7% and that of female part-timers by 18,3% (while the rates of change of full time employment were, respectively, -0,9% and +1,0%).
The distinguishing characteristics of part-time work in Italy are not different from those of most other countries:

1) the large majority of part-time workers are women;
2) part-time work has broader diffusion in the service sector;
3) average working hours are about half than in permanent working positions;
4) hourly pay is somewhat lower than full time pay;
5) part-time working arrangements are mainly found in small firms, and - to a minor extent - in large department stores.

Firms' attitudes towards part-time work have been investigated in a number of studies. A survey among personnel managers of medium-large firms conducted in 1980 (2) reveals that the vast majority of respondents would be interested in part-time working arrangements if an appropriate legal framework were available (as explained before, such a framework was indeed provided only with the 1984 law). As to the forms of part-time work, 2/3 of respondents see it applicable as part-day or part-week contracts, 1/3 as part-year. Over 60% of the answers suggest that part-time work may involve at most 10% of the current working positions; over half indicate that overall productivity may be enhanced by the availability of part-time as a consequence of higher flexibility of labor utilization.

Another study reports the conclusions of a number of in-depths interviews on the same subject (3): the quest for flexibility is again the main driving force behind the acceptance of part-time working arrangements. In particular, it is stressed that firms would be interested to hire on a time-basis: day, week, month, depending on short term needs. Another common feature of most answers is that part-time work should be utilized on jobs of less than primary importance to the firm, implying short training investments and medium-to-low skills of the perspective workers.
Two extensive surveys on the utilization of part time work in Lombardy and in the Torino metropolitan area at the beginning of the 80's are also available: to a large extent they confirm the above indications (4).

4.1.4. Preliminary indications on the consequences of the new legislation

Some recently released data relative to the first year (1985) are encouraging and suggest that the consequences of the Law 863 may not be irrelevant.
It is however, too soon to tell whether a flow of hirings of this magnitude may persist in the future or is destined to become a once-for-all injection with no consequences for the years to come.

	N. of contracts	N. of workers involved		
		M	F	TOT
"Contratti di solidarietà"(*)	228			13.512
"Contratti di formazione lavoro" (*)	92.641			92.641
Part-time contracts (**)				
- new contracts	103.250	21.762	81.488	103.250
(% increase over 1983)	+11	+7	+13	+11
- transfers to part-time	18.209	3.492	18.209	21.701

(*) October 1984 - June 1985
(**)May 1984- June 1985

SOURCE: Ministero del Lavoro e della Previdenza Sociale, Notiziario Statistico sul Mercato del Lavoro, "L'impatto della normativa", n. 1, Gennaio-Marzo 1986.

4.1.5. Cooperatives

The Law 863 (1984) does not deal explicitly with the question of cooperation as a tool for enhancing job opportunities. Other legislative initiatives have been recently taken on this issue, which makes it appropriate to discuss it at this stage of our report.

In Italy the cooperative movement has a long history that dates almost a century. Workers cooperatives of farmers, builders, taxi-drivers, haulers, longshoremen, fishermen have been active well before the advent of the Fascist regime. After World War II the cooperative movement began to reorganize along the traditional political affiliation of their membership: Catholic (the so-called white cooperatives) and Communist (the red cooperatives).
To date over 80% of the workers' cooperative firms active in the E.E.C. are Italian (table 1).
Cooperatives are regulated by Italian law, the main distinguishing characteristic being the ownership structure - the firm's equity is variable on a head basis - and the employment relation between the cooperative - as a juridical entity - and its members which, in accord with the ownership structure, is slightly more flexible than others. In addition cooperatives are often eligible for fiscal and financial incentives of various sorts.
This background story is necessary to place in current perspective the recent development of workers cooperatives - not necessarily affiliated with the traditional political associations (the three main associations - Lega delle Cooperative, Confederazione Cooperative, Associazione Cooperative - still embody 60% of the existing cooperatives) - in the Italian economy.
A number of legislative initiatives in favor of youth and female employment, workers in temporary layoff (C.I.G.), workers laid off by declining industries, have been taken in 1977 (Law 285 on youth employment), 1984 (Marcora Law) and 1985 (De Vito Law "Misure straordinarie per la promozione e lo sviluppo dell'imprenditorialità giovanile nel Mezzogiorno"): all emphasize the workers' cooperative as a viable instrument to enhance job creation.
The results of the 1977 law have been far from encouraging (about 2000 new youth cooperatives initiated in the period 1977-1981 with 50.000 associated members; the majority closed down shortly afterwards and more than half of the laid-off workers have been absorbed by the Public Administration). It is too soon to tell whether the more recent initiatives will fare better: in our opinion too much faith is laid in the effects of direct financial incentives at birth - which lend themselves to all sort of mismanagement practices - while too little is guaranteed in the form of indirect aid (production and marketing assistance, training, legal, accounting and financial counsel, access to industrial areas, etc.).
Many of the new cooperatives (especially, but not only the youth cooperatives) operate in sectors that differ from the traditional areas of cooperative work, namely:

1) farming-related activities: applications of new technologies to agriculture and cattle-rasing;
2) preservation of the environment; forestry management;
3) traditional handcrafts related to local, small-scale manufacturing activities;
4) educational services;
5) health services and assistance to elderly citizens;
6) preservation and restauration of art works;

Tab. 4.1 Cooperative firms 1971-1981 (by activity sector)

	1971		1981		Percentage changes	
	Firms	Employees and coop. members	Firms	Employees and coop. members	Firms	Employees and coop. members
Agriculture	3350	51531	6261	87619	+ 86.7	+ 70.0
Energy and extractions	225	2533	289	6340	+ 28.4	+150.3
Manufacturing	1005	23069	1340	31607	+ 33.3	+ 37.0
Building	784	32630	2138	58811	+172.7	+ 80.2
Trade	3449	27844	4500	51738	+ 30.5	+ 85.8
Trasport and communication	881	44377	1517	44495	+ 72.2	+ 0.3
Banking, insurance, business services	784	21946	2207	58315	+181.5	+165.7
Services	266	3547	1648	23510	+519.5	+562.8
TOTAL	10744	207.477	19900	362435	+ 85.2	+ 74.7

SOURCE: ISTAT, Census of Industry, Trade, Services and Handicraft.

Tab. 4.2 "Production-and-work" cooperatives (by activity sector): 1976-1981

	1976	1981		Δ %
		N.	%	
Building	3042	4605		+ 51.3
Manufacturing	1040	1987	100.0	+ 91.1
- Printing and publishing			5.7	
- Metal, mechanical manufacture			21.9	
- Electrical, electronic ind.			2.8	
- Glass			4.3	
- Non-metallic minerals ind.			19.1	
- Chemical industry			0.3	
- Food industry			2.9	
- Textile and clothing industry			28.9	
- Timber and wood industry			6.3	
- Other			7.9	
Services	1811	4611	100.0	+154.6
- Material services			39.5	
- "Intellectual" services			60.5	
TOTAL	5893	11203		+ 90.1

SOURCE: Federlavoro, Lega.

Tab. 4.3 Birth and death of "production-and-work" cooperative firms

	1972	1975	1976	1977	1978	1979	1980	1981
New births	549	861	1076	1396	1826	2047	2041	2102
Closures	268	344	560	593	668	846	956	1039
Total number of cooperatives	4139	5377	5893	6696	7854	9055	10140	11203
Jobs created			41969					80276
Jobs destroyed			21840					39679
Excess of jobs created over jobs destroyed			+20129					+40579

SOURCE: Federlavoro, Lega.

7) tourism and related activities;
8) business services (software preparation, information-related technologies, auditing, advertising, etc.).

Tables 2-3 illustrate some of the recent developments in cooperative activities and especially of the so-called "production and work" cooperatives (where all the "professional" work must be performed by the cooperative associates). We are not inclined, however, to view these figures as a demonstration of the vitality of Italy's cooperative system and of its job creation potential. If one compares estimates of birth and death rates among cooperatives firms and their net contribution to job creation with analogous estimates for the sector of small business in general (see ch. 5.5), the differences appear very small indeed.
The cooperative firm - especially the "production and work" cooperative - has some advantages over other juridical forms of business in terms of cost-flexibility (work is shared, and the wage fund is proportional to output) and this is, probably, one explanation of its relative expansion in recent years. It may indeed carry some important connotations of solidariety and work ideology that appeal to the young. But we find no convincing evidence that cooperative firms fare better than other non-cooperative businesses, and are more capable to absorb cyclical ups and downs of the economy at large.

4.2. A review of studies on non-standard contracts

4.2.1. "Atypical" contracts as a response to binding supply constraints

"Atypical" contractual forms (part-time and short-term contracts) may therefore be viewed as ways of introducing more "flexibility" in work-force utilization. The argument developed in ch. 3.2.1. suggests a different motivation, namely the attempt to release a supply constraint. As will be discussed in ch. 4.3., the attitude of the youth towards skilled manual work often depends on the personal involvement directly or indirectly implied by the contractual form. Namely, the reluctance to accept manual skilled jobs is largely overcome if the job is not a "lifetime job", but may rather be an explorative experience (useful for gathering information on work environments, for combining earnings and school attendance, etc.).

From this point of view, if there is a shortage of skilled manual workers, part-time jobs and "contratti di formazione-lavoro" undoubtedly offer a partial response to the shortage, to the extent that the shortage is due to "taste" factors such as those just mentioned.

Table 4 reports the number of "contratti di formazione-lavoro" signed in 1984-'85 in the Turin area. These data are analyzed in more detail in next section.
It is rather striking to observe that 8 out of 13 of the jobs in entry III of table 3.4, namely:

Tab. 4.4 Sample survey of manufacturers - Provincia di Torino. Contracts for youth employment and training (CFL) in 1984

Professions	ISTAT	TOTALE
1 Bookkeepers, Cashiers and Related Workers	2.29	256
2 Boring-machine Operators, Milling-machine Operators, Lathe Operators	4.32	237
3 Metal Furnacemen, Melters and Reheaters, Casters	4.21	139
4 Spinners, Weavers, Knitters, Dyers	5.37	126
5 Watch, Clock and Precision-instrument Makers	4.44	123
6 Electrical technicians	6.23	106
7 Blacksmiths, Toolmakers and Machine-tool Operators n.e.c.	4.36	95
8 Electrical Fitters	6.22	83
9 Electronic Computer Operators	2.34	71
10 Machinery Fitters	4.41	69
11 Paper-pulp Preparers	5.81	64
12 Tailors, Dressmakers, Sewers, Upholsterers	5.48	63
13 Clerical and Related Workers	2.39	57
14 Janitors and cleaning services workers	9.52	52
15 Plastics Product Makers	5.75	51
16 Machine Assemblers	4.42	49
17 Draughtsmen	1.78	48
18 Clerical Supervisors and Government Executive Officials	2.21	48
19 Analysts and Computer Programmers	2.26	44
20 Sheet-metal Workers, Coppersmiths	4.53	43
21 Welders and Flame-Cutters	4.52	39
22 Packers, Canners, Bottlers	5.92	38
23 Blacksmiths, Hammersmiths and Forging-press Operators	4.31	37
24 Weavers	5.33	35
25 Commercial travellers	7.23	32
26 Glass Formers	4.63	30
27 Stationary Engine and Related Equipment Oper.	6.34	30
28 Production Supervisors	1.91	28
29 Structural Metal Preparers	4.51	27
30 Dairy Product Processers	5.17	25
31 Metal Rolling-mill Workers	4.22	25
32 Stenographers and Typists	2.31	24
Total 1 - 32		2194

SOURCE: Unione Industriale di Torino.

- boring-machine operators, milling-machine operators, lathe operators;
- blacksmiths, toolmakers and machine-tool operators;
- electric fitters;
- machinery fitters and assemblers;
- draughtsmen;
- clerical supervisors and government officials;
- commercial travellers;
- stenographers and typists;

are contained in the list of 32 occupations for which at least one "contratto di formazione lavoro" has been signed. This observation gives unambiguous support to the hypothesis developed in ch. 3.2.1.
It may be argued that, even in specific job markets requiring very particular skills, supply contraints may always be released if the firm is willing to pay a sufficiently high wage. However, it is quite possible that the firm lacks sufficient incentives to raise wages.
When we say that firms suffer a supply constraint it simply means that the number of workers they are able to hire is less than the number of workers they would like to hire at the current-wage. Of course a higher wage would attract more workers, but nothing guarantees that this is the most efficient way to obtain the same result. The firm controls a variety of aspects of the contract besides the wage, and there is no reason why - in order to sustain a sufficient supply of workers - the firm should limit itself to using the wage only or indeed to using it at all (5).
The hypothesis developed in this section boils down to assuming that the scheduling and human capital aspects of the contract - with its implications from the more general patterns of time-use - might be the most effective instruments to induce a more abundant flow of supply to the markets for manual skilled work (6). This argument should imply a more creative and articulate attitude in designing the appropriate institutional environment to favor such processes.
On the information policy side, to the extent that the phenomena illustrated by table 3.4. are due to inappropriate job labelling, it is clear that this calls for a redesign of data collecting and classification on the basis of specific microeconomic evidence.

4.2.2. Survey of contracts for employment and training. Province of Torino, 1984

The results of a sample survey (300 firms, all members of the Unione Industriale di Torino) have been utilized to estimate the number of CFL-contracts offered in 1984 by manufacturing businesses in the Province of Torino, with breakdown by profession, industrial sector, and firm size (7).
The Census of Manufacturers 1981 indicates 909 firms with at least 10 employees in the Torino area. We estimate that over 6000 contracts for training and employment have originated from these firms in 1984, averaging 6,7 contracts per firms. 65% of the contracts are offered by the mechanical,

auto and engineering sector, while the clothing industry ranks first in relative terms (14,4 contracts per firm).
2750 contracts originate from small firms (10-50 workers) and 1980 in the intermediate size class (100-500 workers). In the (10-50) size group we estimate 4.5 contracts per firm; 14.7 in the (101-500) group, and 29.2 in the group of the large firms (over 500 workers).
Table 5 gives a breakdown of the CFL-positions by profession: interestingly the highest ranking profession is "bookkeepers, cashiers and related workers" (2.29), followed by several "traditional" high skill blue-collar positions (4.32, 4.21, 4.44, 6.23).

Column 4 indicates the number of CFL-contracts for each profession in percent of the number of existing positions in 1981 (Census of Manufacturers).
Column 6 indicates instead the percentage increase of each profession in the decade 1971-81.
The main remark relates to the fact that high numbers in col.4 are often associated with low (or negative) percentage changes in col.6. For example:

ISTAT class.		col.4	col.6
5.48	Tailors, dressmakers, sewers, upholsterers	+32.2	-33.9
4.21	Metal furnacemen, melters, casters	+ 8.1	-42.5
4.44	Watch and precision-instrument makers	+ 5.9	-51.7
5.81	Paper and pulp preparers	+ 7.2	-44.2
5.75	Plastic product makers	+ 5.1	-56.3
5.33	Weavers	+ 5.0	-78.4

Here too these figures may reflect important mismatches in the labour market. All relate to skilled or semi-skilled blue-collar positions, characteristic of traditional industries that have gone through vast reconversion processes, along with major job shedding since the mid Seventies. Our hypothesis is that the job content of these positions may have undergone substantial changes associated with process innovations (electronic controls, automatization of production phases): the retraining of older workers may be judged problematic and costly, while the new option of using CFL-contracts may have been viewed as a favourable opportunity to fill otherwise vacant positions.
If this were the case, it would be indicative of the existence of a supply constraint (unwillingness of young people to take up manual jobs in declining industries, and/or basic vacational training which is judged inadequate by the industry). The institution of CFL contracts lowers the in-house training cost, thus raising the demand for trainees, and mitigating eventual supply constraints.
The following section is intended to pursue this hypothesis in more detail: there are - in fact - two large firms in the Torino area (in the clothing and textile industries) that have alone hired over 200 youths with CFL contracts in 1984. Interviews with personnel executives should help to clarify the issue.

Tab. 4.5

Contracts for youth employment and training (CFL) in manufacturing in 1984 - Provincia di Torino
Top 32 professions: population estimates and comparisons with Censuses of manufacturers

Professions	ISTAT classif.	New contracts: Sample	New contracts: Population estimate	Census of manufacturers 1981	Percentage ratio (2/3 %)	Census of manufacturers 1971	% change 1981-1971 (3/5 %)
		1	2	3	4	5	6
1 Bookkeepers, Cashiers and Related Workers	2.29	253	620	22.321	2,8	10.742	+107,8
2 Boring-machine Operators, Milling-machine Operators, Lathe Operators	4.32	237	580	17.056	3,4	29.591	- 42,4
3 Metal Furnacemen, Melters, Reheaters, Casters	4.21	139	341	4.190	8,1	7.289	- 42,5
4 Spinners, Weavers, Knitters, Dyers	5.37	126	309	8.311	3,7	6.595	+ 26,0
5 Watch, Clock and Precision-Instrument Makers	4.44	123	301	5.084	5,9	10.525	- 51,7
6 Electrical technicians	6.23	106	259	7.632	3,4	9.366	- 18,5
7 Blacksmiths, Toolmakers and Machine-tool Operators n.e.c.	4.36	92	224	117.544	0,2	81.405	+ 44,4
8 Electrical Fitters	6.22	83	202	13.798	1,5	13.600	+ 1,5
9 Electronic Computer Operators	2.34	66	160	1.830	8,7	964	+ 89,8
10 Machinery Fitters	4.41	64	157	29.330	0,5	35.918	- 18,3
11 Paper-pulp Preparers	5.81	64	156	2.180	7,2	3.904	- 44,2
12 Tailors, Dressmakers, Sewers, Upholsterers	5.48	63	154	478	32,2	723	- 33,9
13 Clerical and Related Workers	2.39	57	138	53.961	0,3	49.540	- 8,9
14 Janitors and cleaning services workers	9.52	3	7	4.058	0,2	4.266	- 4,6
15 Plastics Product Makers	5.75	51	124	2.450	5,1	5.603	- 56,3
16 Machine Assemblers	4.42	49	119	32.044	0,4	23.143	+ 38,5
17 Draughtsmen	1.78	48	117	6.965	1,7	6.512	+ 7,0
18 Clerical Supervisors and Government Executive Officials	2.21	28	67	69.035	0,1	43.936	+ 57,1
19 Analysts and Computer Programmers	2.26	42	102	3.183	3,2	1,091	+191,8
20 Sheet-metal Workers, Coppersmiths	4.53	43	106	10.349	1,0	14.432	- 28,3
21 Welders and Flame-Cutters	4.52	39	96	7.567	1,3	11.103	- 31,8
22 Packers, Canners, Bottlers	5.92	38	92	2.099	4,4	2.179	- 3,7
23 Blacksmiths, Hammersmiths and Forging-press Operators	4.31	37	90	3.239	2,8	5.193	- 37,6
24 Weavers	5.33	35	86	1.706	5,0	7.885	- 78,4
25 Commercial travellers	7.23	30	73	11.882	0,6	7.357	+ 61,5
26 Glass Formers	4.63	30	73	2.073	3,5	2.730	- 24,1
27 Stationary Engine and Related Equip.Operators	6.34	30	73	876	7,5	781	+ 12,2
28 Production Supervisors	1.91	28	68	19.049	0,4	14.330	+ 32,9
29 Structural Metal Preparers	4.51	27	66	3.728	1,8	3.431	+ 8,7
30 Dairy Product Processers	5.17	25	61	376	16,2	252	+ 49,2
31 Metal Rolling-mill Workers	4.22	25	60	1.881	3,2	2.525	- 25,5
32 Stenographers and Typists	2.31	22	53	4.303	1,2	8.164	- 47,3

SOURCE: Unione Industriale di Torino, Utilization of contracts for youth employment and training in manufacturing, 1985.

4.2.3. Utilization of employment and training contracts for young people: a case study of a large textile manufacturer in Italy

The Gruppo Finanziario Tessile (GFT) has 5.500 employees in Italy and over 4.000 of them are employed in Turin and the hinterland. The Company has overcome the grave crisis by getting rid of a large part of its work force (over 20%).
The clothing industry is characterized by the phenomena:

- of being "pre-cyclical" i.e. the industry tends to anticipate the booms and slumps of the general business cycles;
- of having productive flexibility so as to respond to business cycles, the seasons and fashion;
- of having low labour turnover due to workers being tied to their own jobs because they have reached high levels of specialization;
- of being highly labour intensive, although there have been some changes due to the introduction of computorized systems of production, warehousing and sales. The operations which have been completely or partially computorized are cutting, preparation, storage and accounting.

Other tasks, assembling pre-cut parts and preparation, can be done only by hand.
The fashion industry is characterized by high risks and must have wide margins of productive flexibility:

- external: recourse to specialized stylists for product lines (a relationship governed by formal contracts);
- internal: employment of staff who are very willing to change roles and tasks. Such a characteristic is considered to be inherent in young people and is preferred to the possession of good and advanced qualifications.

Flexibility is considered to be a basic requisite in the continuous evolution of styles and fashions and of the productive processes themselves, and it is achieved through the continual adaptation of the work force to production methods.
In some cases flexibility is ensured by putting out work to women working at home, sometimes beyond the limits set by current labor legislation.
GFT took on more than 200 young people on employment and training contracts in 1985 with a view to:

- ensuring job flexibility in production
- reducing social security contributions for a reasonably long period (2 years)

From the point of view of organization it would appear to be more appropriate to speak of adapting to new machinery and new techniques of work and warehousing, than to speak of new professional roles for the CFL-trainees. The introduction of forms of automation calls for some specific skills such

as the ability to use and control computorized systems. Further a new profession, previously this work was part of the work of a tailor, known as the "modellist" has been created. This role involves receiving the sketches from the designer and from these preparing patterns for men and women in various sizes according to figures supplied by the sales office. This process provides the firm with the prototypes, patterns and models which are then taken to pieces to be subsequently arranged for industrial production in various production lines. The passage from the prototype to cutting is therefore a strategic step in the line of production which requires a complex information system. There does not seem to be any correlation between the new contractual framework recently laid out and the new professional profiles, nor even any real evolution in professional standards. What we observe is a growing division of the tailor's work, continually adapting to the new organizational needs, and a progressive down-grading of the professional content of the tailor's job.

4.3. Supply-side aspects of non-standard contractual arrangements

This section reviews some possible reasons of interest on the part of individuals/households for non-standard contractual arrangements, with particular reference to part-time work, short-term contracts, work-sharing and cooperatives.

4.3.1. Part-time work

Households' interest in more part-time work opportunities is fairly obvious as soon as one recognizes that it amounts to enlarging the labour market choice-set, i.e. the menu of alternatives among which individuals make their choice. It is well known that the percentage of part-time job holders is much lower in Italy than in most industrialized countries. In recent years, opinion surveys and econometric analyses of microdata (8) have shown that the estimated preferences on time/income allocations are quite similar in Italy to those prevailing elsewhere, but are not matched - and in fact are constrained - by the institutional setting, the consequence being that actual shares of part-time jobs do not reflect preferences at all.
A couple of qualifications are due at this point.
First, one might ask why was a new law necessary (Law 863/1984) to "allow" part-time contracts when in fact these contracts where not ruled out according to the previous legislation. The fact is that the institutional setting left too much uncertainty as to various components of labour costs in the case of part-time contracts, thus representing at least a strong disincentive if not a forbidding constraint.
Second, if for the individual one can correctly say that more part-time jobs represent an enlargement of the choice-set, one might also argue that this cannot be true for labour-suppliers as a group, since more part-time jobs will imply less full-time jobs. As it stands, however, the argument suffers

from the "cake-invariance" fallacy. To the extent that some positive interest can be assumed on the part of the firms for part-time contracts (for example, as one of the means to alleviating supply constraints, as argued before), then one can infer that by removing the disincentives against part-time contracts which characterized the previous institutional setting, the firms' choice-set will be enlarged as well. This implies, in general, a larger demand for labour in terms of total hours demanded, which should at least partially offset the negative effect on the demand for full-time jobs. Of course, whether the new framework will suffice to ensure a "choice-set enlarging" property from the supply's point of view, cannot be strictly answered on a priori grounds.

4.3.2. Short-term contracts

A possible interest on the part of the households for short-terms contracts - such as "contratti di formazione lavoro" - is far less obvious. It is out of question that short-term contracts offered are likely to increase very significantly and that they will definitively find their matching supply. The standard argument "any job is better than no job" seems currently appropriate to justify such a presumption. But the point that we would like to make is that more opportunities for short-term contracts might themselves enlarge the choice-set for the individuals/households. The reason for this is to be found in the differential qualitative characteristics of a short-term contract with respect to a standard permanent contract, the former implying a smaller involvement (in terms of specific human capital choice, of planning, of cultural and professional identification). Possibly the most important aspect of this reduced involvement is what we may call the "separation-without-stigma" property. While it is true that from the supply point of view any contract can be a short-term contract (voluntary separations are always feasible), it is also a fact that frequent separations do not help a worker's reputation. But this negative "stigma" effect is absent by definition as long as officially short-term contracts are concerned. In other words, it seems a workable hypothesis that officially defined short-term contracts - such as "contratti di formazione lavoro" - may represent a way of offering to young workers the opportunity to explore the market, to try different work environments and to allocate a strictly limited amount of time, effort and emotional involvement to the first stages of their careers, without being labelled as "unreliable" or "lazy".

4.3.3. Work-sharing ("contratti di solidarietà")

Whether workers prefer a stable employment status with variable income and hours, or a variable employment status with stable income and hours when employed, is one more question that cannot be answered on a priori grounds, since it depends on the degree of risk-aversion and on the way it interacts with the relative preferences for income or "leisure" (9). No nation-wide

representative estimates of these parameters are available for Italy (10). However, the evidence provided by opinion surveys, simulation exercises (11), and - most important - by the quantitative performance after the Law 863, introducing the institute of "contratti di solidarietà", is not discouraging.

4.3.4. Cooperatives

This form of partecipation to the labour market has recently attracted much interest, both theoretical and institutional, and ultimately policy-oriented. On one hand, it seem to match very well with various "taste" characteristics of young people - but not exclusively young people -. Also, it offers itself rather naturally as an appropriate organizational form which can give structure and "officiality" to a large area of intermittent, semi-hidden, semi-voluntary forms of labour market participation.
On the other hand, on a more abstract and general level, it has been argued that profit-sharing economies - and labour-managed economies can be viewed as just one way of implementing the profit sharing principle - show desirable properity of being more conducive to full-employment (M. Weitzman, 1985).
The theme of cooperatives is strictly connected to the theme of self-employment and of policies towards the unemployed. Opinion surveys invariably signal a large potential supply to self-employment, particularly amongst the unemployed (12). Capital and risk market imperfections are obvious obstacles to the realizations of these attitudes. An efficiency argument can thus be developed in favor of public incentives to cooperatives - which are in fact also a form of risk - sharing.

4.4. Some adverse selection and disincentive effects related to non-standard contractual arrangements

We have seen a number of reasons why these forms of participation might expand. It is worthwhile mentioning some reasons which, instead, might ultimately limit their growth. First let us take cooperatives and work-sharing, and note that despite the institutional peculiarities, they are economically very similar in that they both implement a system of stable employment status cum wage or income flexibility. In principle, in bad times, the members of the cooperative do not incur the risk of "losing their job", but they see their earnings cut down. The same will happen to the workers of a firm adopting a work-sharing system. But exactly for this same reason, these contractual arrangements suffer from the adverse selection and adverse incentive effects which sticky wages - and, in general, higher than full-employment levels wages - try to avoid (13). If "ability" - holding observable characteristics and qualifications fixed -is unevenly distributed across the population, and if better workers have also better opportunities in alternative to the job they currently hold, then a worsening economic payoff obtained from this job will induce some of the best workers to leave and search for better opportunities: by assumption, those who stand a better

chance of finding more profitable alternatives are also the best workers (14). In equilibrium - in the long run - one can guess that cooperatives and firms systematically adopting work-sharing arrangements, risk to become a shelter for "lemon" workers.

We have stressed the adverse selection problem. But the crucial feature - the dependence of the quality of labour input on the wage - can easily be seen also as an incentive problem.

Even if workers were homogeneous, they have control over their "effort" - let's say over their labour supply in efficiency units, not just in hours - which is costly to perfectly monitor at the individual level. It is easy to show that a sharing system, whether implemented by a cooperative or by a work-sharing arrangement, will extract less effort than a standard employment contract (15).

Of course, one might think of counteracting institutions. An example would be to make earnings (or a fraction of earnings) depend on some observable index of effort or "ability". This would mitigate - though not eliminate - the selection or incentive problems, but would also be disruptive with respect to the fundamental "egalitarian" and "solidaristic" inspiration which, after all, gives the very distinctive character to these organizational forms as alternatives to the standard employment relationship, and which also represents one major motive of attraction for some segments of the population.

Similar caveats can be put forwards with respect to part-time work and short-term contracts. If personnel managers - rightly or wrongly - think that the willingness to supply a limited or non-continuous stream of labour-force is somehow associated with a lower quality of labour, this will not help the expansion of these contractual arrangements (16).

All these considerations, on the other hand, are likely to loose much of their weight as soon as, or to the extent that, the supply constraint becomes binding.

NOTES CHAPTER 4

(1) A CFL normally has a duration of 12 months (in a few cases it can be extended up to 24 months). At expiration it must be either terminated or transformed into a regular, unlimited time, position. During all or part of the CFL-term the young worker undergoes a training program, in conjunction with performing his work.

(2) A. Martelli, "Gli atteggiamenti dei direttori del personale delle imprese industriali italiane sul lavoro a tempo parziale", ENI-Quaderni Personale, 1 (1980).

(3) Fondazione G. Agnelli, L'istituto del part-time in Italia e all'estero, Torino (1982).

(4) Associazione Industriale Lombarda, La domanda di lavoro part-time nelle imprese dell'area milanese, Milano (1982); Unione Industriale di Torino, Il mercato del lavoro in provincia di Torino, Torino (1981).
For a detailed survey of many other contributions se also C. Marchese and G. Ortona, "La domanda di lavoro a tempo ridotto", MICROS, vol. 3 (1984).

(5) These considerations are strenghtened by the observation that the wages, besides regulating the quantitative supply level, also performs other functions, and typically a selection/incentive function, thus regulating quality of work supplied as well.

(6) The obvious alternative - possibly the most favoured one by the workers' unions until the beginning of the 80's - is a wage policy. Survey information suggests that this alternative did not rank high neither in the individuals' nor in the firms' preferences.

(7) A few responding firms had less 10 employees. In estimating population totals we assumed that the smallest firm class is 10-50 employees, in order to avoid excessive weight assigned to firms with less than 10 employees, greatly under-represented (but not recognizable) in the sample.

(8) U. Colombino and A. Zabalza, Labour Supply and Quantity Constraints. Results on Female Participation and Hours in Italy, Discussion Paper n. 125, Centre for Labor Economics, London School of Economics, 1982.
D. Del Boca, "Salari e offerta di lavoro full-time e part-time", MICROS, 1985.
U. Colombino, "A Model of Married Women Labour Supply with Systematic and Random Disequilibrium Components", Ricerche Economiche, 1985.

(9) Some theoretical contributions to the "implicit contracts" literature seem to offer very clear-cut conclusions in favor of "variable-employment" arangements, but they depend on rather special assumptions about preferences.

(10) A utility function is estimated by Colombino (1985) using data from a local survey.

(11) U. Colombino, "Efficienza ed equità nei programmi di redistribuzione del lavoro", MICROS, 1985.

(12) For example: U. Colombino, D. Gambetta, F. Rondi, L'offerta di lavoro giovanile in Piemonte, F. Angeli, 1982.

(13) On the selection effect and the incentive effect of wages, see, respectively:
A. Weiss, "Lay-offs with flexible wages", Journal of Political Economy, 1980
J. Stiglitz, P. Shapiro, "Unemployment as a Worker Discipline Design", American Economic Review, 1984.

(14) Firms try to avoid this by maintaining the wage fixed and by dismissing a quota of randomly chosen workers, or - to the extent that they can be identified and that it is institutionally feasible to do so - by firing the worst workers.

(15) A very simple model may help to explain this point. Let us assume, for instance, the "cooperative" has N identical workers.
Their utility level depends on income W and effort h in the following way

$$u = W - h^2$$

Each unit of effort produces 1 unit of output. Therefore total output Q is simply

$$Q = \sum_{i=1}^{N} h_i$$

Under the simplest sharing arrangement, individual income is just the N-th part of Q:

$$W_i = \frac{1}{N} Q = \frac{1}{N} \sum_{i=1}^{N} h_i$$

If worker i conjectures that any other worker will set $h = h^*$, his problem is as follows:

$$\max_{h_i} U_i = \frac{N-1}{N} h^* + \frac{1}{N} h_i - h_i^2$$

The first order condition is:

$$\frac{1}{N} - 2h_i = 0$$

implying $h_i = \frac{1}{2N}$

Since worker are identical, in equilibrium we should have $h_i = h^* = \frac{1}{2N}$. Notice that what we are analysing is a group of people who act cooperatively in the distribution process, but not in the production process.

Total output is $Q^* = N\,(1/2N) = 1/2$, which is independent of N. There is indeed some inefficiency in this arrangement! To check this, note first that unit wage $\tilde{w}$ is

$$\tilde{w} = w/h = (1/2N)/(1/2N) = 1$$

Now suppose a "capitalist" offer each worker a unit wage $\tilde{w} = 1$. Then the worker's problem is

$$\max_{h_i} U_i = h_i - h_i^2,$$

with solution $h_i^{**} = 1/2$.

Under this arragement total output is

$$Q^{**} = N - 1/2 \geq Q^*$$

Indeed, this arrangement Pareto dominates the cooperative, since

$$u^* = \frac{1}{N}\, h^* N - (h^*)^2 = \frac{1}{2N} - \frac{1}{4N^2} = \frac{1}{N}\left(\frac{1}{2} - \frac{1}{4N}\right)$$

$$u^{**} = h^{**} - (h^{**})^2 = \frac{1}{4} \geq u^* \text{ for } N > 1$$

Of course h^{**} is the same solution we would get with a "fully cooperative" arrangement, i.e.

$$\max \sum_i u_i = Nh - Nh^2,$$

which implies $h = 1/2$.

Note that the argument assumes that the "capitalist" is able to monitor h_i. If, on the other hand, he payed wages on the basis of "group productivity", and the workers knew that, then the "capitalist" solution would collapse to the "ccoperative" solution.

(16) Indeed, one could argue that this has been the case for Italy, where the low participation rate has probably represented a major source of uncertainty as to the quality of potential industrial labour, thus inducing firms to use a large variety of indicators, such as, for example, the degree of attachment to labour market participation.

CHAPTER 5

New areas of employment growth

5.1. Introduction

When the question is posed "which are the new areas of employment growth ?", the answer invariably points at the service sector and at I.T. (information technology) related jobs.
Let us briefly review here some of the basic premises that lead to what is becoming the prevailing employment paradigm of our Western industrialised part of the world.

There is no need to insist on the fact that the service sector is a huge conglomerate of different activities, and that the number of basic elements that make up such a conglomerate is still in rapid expansion: new services are created more rapidly than new commodities. Very often a new "product" is nothing but an existing commodity which is marketed with a new service embodied in it. An obvious example (but many more could be provided) is the modes which characterize the market of personal computer:

(a) personal computer (basic hardware)
(b) personal computer with maintenance contract
(c) same as (b) with own software
(d) same as (c) with IBM compatible software
(e) same as (d) with .... ? (wait and see).

As societies become more affluent, demand patterns evolve: income effects shift consumers' demand away from basic commodities towards products of higher quality, commodities cum services, services of various sorts. The downward trend of working hours has pushed upward the demand for leisure services.
Increased disposable wealth and earlier retirement practices have created an unknow demand for management services of financial assets and insurance plans.
Average life expectancy is also increasing, and along with it comes a growing need of health services, assistance to elderly citizens, activities and programs for the third age.
Often higher affluence at large does not prevent more unequal income distribution: egalitarian ideologies put more pressure on the expanding reach of the welfare state (despite some well-know examples that seem to go the opposite way). Affluence at large is a carrier of subtle social malaises: drug, mental illness, dropping-out, are all pathological by-products of the increasing diffusion of wealth. Coping with these problems requires a legion of specialists which modern societies - in different degrees depending on the prevailing political scenario - provide or will have to provide.

5.2. Baumol (1959) on the increasing role of the service sector

Leaving philosophical considerations aside and concentrating on the economic

issues, the temptation to refer to W. Baumol's path-breaking model of 1959 (1) is strong: with many of the above premises in mind, Baumol indicated that due to the higher rate of productivity growth in manufacturing compared to the services, an increasing share of the labour force would be employed in the service sectors (and increasing number of local governments wold risk bankruptcy if they were to be the main providers of these services).
Baumol's hypotheses were - fortunately - not all true: it is false - for instance - that the rate of growth of productivity is always higher in manufacturing than in the services. But the main message is basically correct and it is a useful starting point to move a bit further.

5.3. Supply-side considerations

Many of the previous observations relate to the demand side. What is there to be said and learned from (a) the supply side of output; (b) the supply of labour ?
One important supply-side follow-up of Baumol's work, is the so-called Scandinavian model of inflation in a small open economy (2): with all of Baumol's premises and three additional hypotheses:

(i) services are not tradeable on world markets, while manufactured goods are;

(ii) wages in the service sector follow closely those negotiated in the tradeable goods sector;

(iii) tradeable goods are priced at the world market price, while the price of non-tradeables (the service goods) is marked-up over variable costs;

the Scandinavian school reaches the conclusion that the rate of inflation is determined by the productivity gap between the manufacturing and the service sectors: the higher the rate of growth of productivity in manufacturing compared to that prevailing in the service sector, the higher the rate of inflation.
Once again, the basic idea is sound although some of the premises are not all correct: in addition to the previous remark that service sector productivity is not always running slower than in manufacturing, it is also definitely not the case that all services are home goods, Most are, but many are not (fortunately) and can be exported just as physical commodities.
The fact remains that in modern economies where employment in the wide constellation of service sectors is indeed expanding as Baumol predicted 25 years ago, and where public or semi-public provision will bear a large share of its burden, many of the long run macro-equilibrium properties of the system are inevitably related to the prescriptions embodied in the Scandinavian model and its extensions.

5.4. Vertical disintegration

Other observations from the supply-side are more relevant in a micro-economic perspective.
In the last dozen years of prolonged stagnation (that may be coming to a stop nowadays) the average size of firms (in terms of employees) has dropped substantially in Italy as well as in many other EEC countries and also in the U.S. Job shedding by the larger firms has been in part counterbalanced by massive entries of new businesses both in manufacturing and in the services. An interpretation of the reduction of firm size has been given in terms of the following elements (3):

- increasing rigidity in the cost structure of individual firms;
- greater uncertainty in factor markets and product markets.

Both elements increase the risk of firms having to operate with a large part of their fixed structures under-utilized. Thereby the need for more flexible organizational forms and the trend towards processes of vertical disintegration of production.
All of this suggests that, contrary to A. Smith's famous theorem that the division of labour is limited by the extent of the market, forms of vertical disintegration may allow the reintroduction of margins of flexibility to the firm when (i) markets are shrinking after long stretches of steady growth, (ii) the overall level of uncertainty increases in factor and product markets.
If we accept G. Stigler's view of the business firm as a collection of functions or processes which - together - constitute the scope of its activity, each having an average cost function that varies according to the rate of output (4), we have a theory of vertical disintegration that explains many of the recent events.
Many innovations in the last twenty years - both technological and organizational advances - have had the effect of making an increasing number of functions of the firm more and more specialised. Take, for example, most "business services", such as advertising and design, legal and fiscal services, software preparation, market research and auditing, or even the manufacturing of certain parts and components and maintenance operations. When these functions are labor intensive and require increasingly specialised skills and equipment, they are frequently characterized by high fixed or semi-fixed costs. In some cases the "fixity" depends on the fact that a function must be carried out by a group of specialists who cannot be employed in other functions, in others these costs depend on the need for equipment which can only be used for the specific function for which it was designed.
In periods of slow growth and uncertainty of demand, firms are exposed to the risk of finding their fixed, specialised structures severely underutilised.
In these circumstances the incentive to resolve the "make or buy" option by delegating the supply of business services or intermediate goods to outside firms is strong, to the extent that these functions can be separated from the main productive process without affecting its efficiency.

Tab. 5.1 Ratio of subcontracting costs to gross value in Italian manufacturing industries, 1971-1981 (%)

Industry[a]	1971	1981	Annual average growth rate of the ratio
Group 1			
- Textiles	16.75	35.64	7.31
- Clothing	7.62	27.59	13.73
- Footwear	9.76	23.30	9.09
- Leather	3.08	19.68	20.38
Group 2			
- Man-made fibers	21.79	32.94	4.22
- Printing and publishing	23.29	30.43	2.71
- Petroleum	17.52	24.80	3.54
- Metal manufacturing	12.83	20.20	4.64
Group 3			
- Furniture	1.72	8.67	17.56
- Photo, sound, cinema	1.18	5.71	17.10
- Chemicals	4.93	11.33	8.68
- Wood products	4.66	10.41	8.37
- Paper products	4.21	8.44	7.20
- Motor vehicles	7.67	15.09	7.00
- Food, beverages and tobacco	2.96	5.80	6.96
- Stone, clay, glass and concrete	5.33	9.91	6.40
- Rubber products	1.90	3.46	6.18
Group 4			
- Machinery (including electronics and electrical appliances)	9.95	14.34	3.72
- Plastics	6.73	9.74	3.77
All industries	9.02	15.32	5.80

SOURCE: S. Mariotti and G. Cainarca, "The evolution of governance structure in the textile clothing industry", Journal of Economic Behaviour and Organization, forthcoming (1986).

Where production processes are being destructured as this model suggests, new demand is created for intermediate products and business services, and market niches open up attracting new enterprises. We have some very preliminary evidence suggesting that birth rates of new enterprises might be positively related to the reconversion processes (and conseguent job-shedding) of large firms operating in the area.

5.5. Birth and death characteristics of Italian firms

Some findings on the demography of Italy's business firms in the four-year period 1978-1981 provide strong empirical support to the above remarks (5). Birth rates of firms in all industrial sectors (both manufacturing and services) are found to be strikingly high, often in the region of 10-15% per year both in capital intensive and in labour intensive industries. Observed death rates are also high, usually a few percentage points lower than birth rates.
Not surprisingly the size of the great majority of firms that partecipate to these in-and-out movements is very small. Out of 100 new firms, often more than 90, and seldom fewer than 80, have 6 employees or less at the time of entry (table 2).
In order for these developments to take hold, entry barriers at small scale of operations must be negligible in all or almost all industries. Many of the small scale entries indeed involve firms whose survival probabilities are extremely low: the average life expectancy at birth is ofter less than 5 years.
Table 2 shows also the cumulative probability of firms closing within 1, 2 and 3 years from startup. For instance, in the textile industry (43), out of 100 new firms born in any given month, 16 close in the first year, 26 within 2 years (i.e. 10 during the second year), and 34 by the end of the third year.
The values shown refer to all firms regardless of their initial size. Early mortality rates are obviously much higher for firms that were smallest at birth.

The high turbulence at the lower end of the size distribution of business firms finds its match with the increasing share of independent workers that was emphasized in ch. 2.1 of this report.
As a matter of fact, there are many new distinguishing traits of the labour supply that appear quite in line with the ferment of the industrial structure: the observed preference for non-traditional modes of work (part-time, flex-time, etc.) has been discussed at some length in ch. 4.

5.6. Integration between services and manufacturing

The above trends go some way to explain the increasing integration of the service sectors with manufacturing activites: while economic growth leads to

Tab. 5.2 Birth and death of manufacturing firms (North-West regions - 1978-1981)

b/B and d/D = percentage of small firms (up to 5 employees) on total birth and death

Industry	birth rate	death rate	b/B	d/D	Cumulative infant mortality rates		
					Within 1 Year	Within 2 Years	Within 3 Years
24	.094	.073	.860	.748	.121	.200	.256
25	.079	.067	.826	.820	.198	.318	.337
31	.120	.083	.908	.831	.186	.274	.329
32	.090	.061	.812	.765	.148	.231	.307
34	.159	.087	.879	.739	.113	.201	.307
41	.110	.078	.927	.880	.143	.227	.287
42	.079	.068	.831	.737	.113	.181	.268
43	.111	.079	.868	.730	.160	.259	.335
45	.166	.113	.876	.747	.200	.305	.396
46	.094	.071	.956	.897	.149	.227	.311
47	.077	.063	.923	.688	.117	.198	.257
48	.147	.079	.858	.757	.148	.213	.300
67	.143	.080	.970	.925	.162	.256	.333
36	.118	.107	.841	.824	.155	.413	.449
37	.150	.075	.960	.866	.145	.211	.273
44	.142	.119	.900	.866	.280	.359	.417

NACE industrial classification (2-digit)

22 Production and preliminary processing of metals

23 Extraction of non-metalliferous minerals

24 Manufacture of non-metallic mineral products

25 Chemical industry

26 Man-made fibres industry

27 Printing and publishing

31 Manufacture of metal articles (except engineering and vehicles)

32 Mechanical engineering

33 Manufacture of office machinery and data processing machinery

34 Electrical engineering

35 Manufacture of motor vehicles and of motor vehicle parts and accessories

36 Manufacture of other means of transport

37 Instrument engineering

41 Food industry

42 Drink and tobacco industry

43 Textile industry

44 Leather and leather goods industry (except footwear and clothing)

45 Footwear and clothing industry

46 Timber and wooden furniture industry

47 Manufacture of paper and paper products

48 Processing of rubber and plastic

49 Other manufacturing industries

50 Building and civil engineering

a higher degree of product standardization in order to capture the benefits of scale economies, wealthier consumers demand more differentiated products. Intermediate services respond to the need of differentiation both with regard to product characteristics (market studies, design, assistance service) and by providing an appropriate distribution system (wholesale, merchandising, transportation). Most of the producers' services are themselves internationally tradeable: it follows that direct trade flows of such services will increase in the near future (in particular in a context of trade liberalization). In addition, the increased integration of services with manufacturing will lead to an increase of the trade flows of services embodied in other commodities. Indeed, the service content of a commodity will enhance its competitiveness on world markets (6).

Much of J.I. Gershuny's message (1979) on the evolution of post-industrial society points in this direction. His concern for the often-made confusion between industries and occupations, and his emphasis on the progressive non-emptiness of the off-diagonal cells of the matrix "industry-occupation" derive from observing the increasing integration between services and manufacturing.

Yet, while integration between services and manufacturing proceeds at the "industry" level, it does not follow that the same patterns should prevail at the "firm" level.
Quite the contrary: much of the preceding discussion points at the progressive disintegration of production activities by business firms, i.e. the recourse to the market for numerous functions - often, but not necessarily, service-related - in order to preserve flexibility against uncertainty in factor and product markets, and to reap the advantages of the increasing demand for specialized services and/or skills.

5.7. Services and producers' services in Italy

A cursory observation at international statistics on the employment structure suggests that Italy's service sector is still substantially under-represented, if compared to other countries of the Western world.
One should, nonetheless, refrain from hasty conclusions. There are three reasons that need to be taken into account:

1) sectoral classification across countries is far from homogeneous. One well known example is the case of maintenance activities: in the U.S.A. and Canada they are all included in the service sector, in Italy they are often placed in manufacturing. Other countries may use intermediate classification criteria (which are the prevailing functions of the workers? Where is the majority of output sold?);

2) part-time occupations in the service sectors make up a large share of employment in the U.S.A., Canada, U.K., Sweden; in Italy - as has been

argued - job sharing via part-time work (and other contractual arrangements) is still largely underdeveloped;

3) the different degree of production specialization may pull in the same direction. The more intense the process of industrial deverticalization in countries like Italy, the less will differences be attributable to this factor.

Coherent international comparisons based on input-output calculations are available on the share of employment in the intermediate service sector over total service employment in the decade 1965-1975 (7):

	1965	1975
Italy	28.8	36.3
France	32.8	36.9
West Germany	38.6	46.7
U.K.	33.9(1970)	40.4

In Italy and France this increase accounts for more than 60% of employment growth in the services, while in W. Germany and the U.K. the increase of employment in business-related services is even higher in absolute terms than the growth of total service employment.
The increasing integration between services and manufacturing may be tested by estimating the share of service-related inputs on total inputs into manufacturing. F. Momigliano and D. Siniscalco (1985) have some interesting estimates, derived from a model of vertically integrated sectors in an input-output framework.

Service inputs in the sub-system "industry" (measured in terms of 000 employment) - Italy: 1959-1981

	1959	1965	1970	1975	1981
Producers' services (total)	600	625	781	917	1188
% on employment in all service sectors	12.01	12.04	13.28	15.15	17.00
% on total employment (direct and indirect) in sub-system industry	6.12	9.73	11.49	13.27	17.16

Between 1959 and 1981 employment in all (direct and indirect) services utilized as inputs in the sub-system industry (8) increases from 600 thousand to 1188 thousand units. The share on total service employment rises from 12% to 17%. Moreover, the share of service-related employment on total employment

in the sub-system industry increases steadily from 6.12% in 1959 to 17.16% in 1981. The latter is a good proxy for the degree of "tertiarization" of Italy's industrial system.

5.8. The new professional mix: fragments for a scenario

As we approach the end of this report we have to face again the question of the new professions. As was explained in the preceding chapters, the statistical material that can be lined up for this purpose is not rich: on one hand we have the Census data that allow to pick up the winners and the losers of the profession context in the decade 1971-1981 (ch. 2.1.11); on the other hand we have the ENEA forecasts (ch. 2.2.1).
A judicious reading of the U.S. Bureau of Labour Statistics study "Employment Projections for 1985" (9) provides some additional indirect insights that will help our task.
A preliminary question relates to the appropriateness of using U.S. projections as a supplementary tool of inquiry. In our opinion there are few drawbacks: the underlying assumption is that the trends of the U.S. labor market may be viewed as leading indicators not only of Italian developments, but also of any country where the pace of technological change is not so rapid as in the U.S.A.
There are some institutional differences that - at least in principle - should not be neglected:

- the share of public vs. private employment opportunities. In the U.S.A. public employment (federal, state, local) exceeds 15% of total employment, while in Italy it is about two percentage points higher (17,4%);

- the widespread utilization of part-time work in the U.S.A. vis-à-vis Italy: this could be the source of serious problems, as a very large fraction of the recent employment growth in the USA is attributable to the massive utilization of part-time workers in some service sectors (wholesale and retail distribution, catering and fast food industries, etc.);

- the different degree of vertical and horizontal integration between U.S. and Italian industry: while this may affect employment and employment mix comparisons at the firm level, it should not bear any relevance at the macro level.

Let us consider in more detail some of the main results of the BLS study: in the 1972-1980 period U.S. employment has increased by 15,6 million. Half of this increment has touched only 20 professional categories: in particular the group of "professional and technicians" accounted for 4,2 million of the new jobs, and the group of "white-collars" for 3,9 million. Table 3 gives a breakdown of the occupations that have recorded the largest absolute increments in that period. It is apparent that many of the "winning" ocupations in the U.S.A. have turned out to be winners also in Italy during

Tab. 5.3 Professional categories with large absolute increments 1972-1980 (U.S.A.)

Professions	Employment		Δ L		(*)
	1972	1980	n.	%	
Total employment	81702	97270	15568	19.1	-
Professionals					
- Accountants	714	1047	333	46.6	6
- Computer specialists	273	584	311	113.9	10
- Scientists	828	1095	267	21.1	17
- Engineers	1102	1433	331	30.0	14
- Health technicians	315	571	256	81.3	18
- Lawyers	303	522	219	72.3	3
- Professional nurses	801	1302	501	62.5	
Sales personnel					
- Real estate operators	349	582	233	66.8	17
- Sales representatives	696	915	219	31.5	18
White-collars					
- Bank tellers	288	531	243	84.4	16
- Bookkeepers	1584	1904	320	20.2	9
- Cashiers	988	1554	556	55.7	2
- Video-terminal operators	196	552	326	166.3	8
- Secretaries	2949	3876	927	31.4	1
Skilled blue-collars					
- Machine operators	714	963	249	34.9	15
- Truck drivers	1441	1844	403	28.0	5
- Warehouse supervisors	723	941	21	30.2	20
Service workers					
- Janitors	668	932	264	39.5	13
- Cooks	866	331	465	53.7	4
- Waiters	1124	316	292	26.0	11

(*) Ranking by absolute observed increment 1972-1980

SOURCE: "Employment projections for 1995", Bureau of Labor Statistics Bulletin, N. 2197, mar. 1984, tab. 2, p. 43.

the 1971-1981 decade (table 14 in ch. 2).
The BLS forecasts for 1995 indicate that the occupations requiring a University degree or higher will be in very high demand; so will, however, be some professions such as health technicians and nurses, for which college degrees are not necessary pre-requisite.
High technology will require increasing numbers of scientists, engineers, computer and communications specialists, laser technicians. In all these occupations employment growth has already moved at much faster speed than the economy at large. The BLS strongly suggests that such patterns will be strengthened at least until the mid-Nineties.
Technological innovations will also have a negative impact in many occupations: word and text processors will drastically reduce the demand for typists; industrial robots will have similar effects on jobs such as welders, industrial painters and material handling operators. CAD, CAM advances will wipe out most of the draughtsmen jobs.
Inspite of the impact of new technologies, however, the BLS indicates that employment will not stop increasing in many of the traditional occupations (truck drivers, fast delivery operators, office building cleaners and maintenance operators, policemen and firemen, repairmen, machinery and plant maintenance operators).
There are - on the other hand - other professional groups indicated as rapidly losing grounds in the USA: all the unskilled or low skilled traditional blue-collars, and the unskilled agricultural workers.
Additional data on projected professional needs for the U.S.A. are provided in tables 4 and 5. While the BLS calculates projections on 1.500 different occupational categories, the 40 professions contained in table 5, alone, account for about 13 million of the estimated 15,6 million new jobs throughout 1982-1995. The fastest growing professions are listed in table 6: note that inspite of their very high percentage expansion, the absolute increment attributable to them is only 1,5 million new positions.
If we compare the BLS projections for the USA with the trends observed in Italy in the decade 1971-1981, we find more similarities than differences.
This is conforting in view of our intention to draw some inspiration from the US experience in order to lay out a credible scenario for the Italian case.
One already at hand is the ENEA scenario of new professions for 1990 discussed in ch. 2.2.1. As previously mentioned, while we would not subscribe to the ENEA quantitative forecasts, there is reason to believe that the professions indicated as the likely winners for the five years to come, will indeed end up near the top of the list (10).
The Fondazione Agnelli study of new productive systems (ch. 3.1.1) confirms some of the ENEA qualitative indications, but it is less optimistic as far as the projected number of new production-worker positions in manufacturing (85.000 suggested by Fondazione Agnelli against 200.000 estimated by ENEA).
The indications emerging from the case studies conducted in two service sectors (reported in ch. 3.1.2) are not out of line with the ENEA forecasts.
Although of more local interest, the Lombardy and Torino surveys reported in ch. 2.2.2 indicate similar trends for the professional profiles that will prevail in the manufacturing sector in the 90's.

Tab. 5.4 The forty occupations with largest absolute increments 1982-95 (U.S.A.)

	△ L (000)	% change
Building supervisors	779	27.5
Cashiers	744	47.4
Secretaries	719	29.5
Administratives	696	29.6
Salesworkers	685	23.5
Professional nurses	642	48.9
Waiters	562	33.8
Elementary school teachers	511	37.4
Truck drivers	425	26.5
Other unskilled health workers	423	34.8
Sales representatives (technical sector)	386	29.3
Accountants	344	40.2
Car repairmen	324	38.3
Foremen	319	26.6
Kitchen aids	305	35.9
Protective service workers	300	47.3
Fast-food operators	297	36.7
Store managers	292	30.1
Carpenters	247	28.6
Electrical and electronic technicians	222	60.7
Nurses	220	37.1
Systems analysts	217	85.3
Computer engineers	209	65.3
Computer programmers	205	76.9
Mechanics	193	27.8
Sales aids	190	31.2
Receptionists	189	48.8
Electricians	173	31.8
Physicians and surgeons	163	34.0
Office supervisors	162	34.6
Computer operators	160	75.8
Other representatives	160	27.4
Lawyers	159	34.3
Warehouse managers	156	18.8
Typists	155	15.7
other clerical aids	153	19.2
Bookkeepers	152	15.9
Restaurant cooks	149	42.3
Bank tellers	142	30.0
Fast-food cooks	141	32.2

SOURCE: "Employment Projections for 1995", Bureau of Labor Statistics Bulletin, n. 2197, mar. 1984, tab. 2, p. 43.

Tab. 5.5 The twenty fastest growing occupations 1982-1995 (U.S.A.)

	% change	△L (000)
Computer services technicians	97	53
Legal counsels	94	43
Systems analysts	85	217
Computer programmers	77	205
Computer operators	76	160
Computer maintenance technicians	72	40
Physiotherapist aids	68	26
Electrical engineers	65	209
Civil engineers	64	23
Video-terminal operators	64	31
Insurance salesmen	62	53
Electrical technicians	61	222
Rehabilitation technique specialists	60	15
Sales supervisors	59	23
Bank tellers	54	27
Physioterapists	54	25
Personnel workers	53	30
Mechanical engineers	52	109
Mechanic technicians	52	25
Plastic die makers	50	47

SOURCE: "Employment projections for 1995", Bureau of Labor Statistics Bulletin, n.2197, mar. 1984, tab. 3, p. 44

5.9. New professions: trends towards polarization and new contractual arrangements

We turn, finally, to the study by R. Monducci and M. Scarfone (ch. 2.12): they too find their results sufficiently comparable with the BLS projections. Their conclusion reads as follows:

> " In the (inter-Census) ten year period 1971-1981 the number of relatively skilled positions has substantially increased. In some cases we find a beneficial effect attributable to changes in the production structure and to technological innovations that require higher professional qualifications.
> It deserves to be emphasized, however, that some of the professions characterized by the largest (absolute) increase are related to the development of services provided by the Public Administration (education, health, etc.). Such devolopment is the result of demographic and institutional factors that may not take place again in the future.
> .... The tentative conclusion is that the 1971-1981 decade has seen a "polarization" of the job market, with many highly skilled professions and some low skilled occupations undergoing a more rapid growth than most of the intermediate skill-positions."

The last point is of great importance, and we would like to consider it in some more detail.
As we have seen, many of the low skill occupations that have expanded in the Seventies and early Eighties in the USA, are also expected to continue their growth in the Nineties. Such an expansion was (and will be) characterized by a vast utilization of part-timers or temporary workers: indeed it has been made possible by the very existence of such institutional flexibilities in the U.S. labor market.
It is our convinction that similar patterns may take place in Italy in the years to come, provided that the recourse to flexible contractual arrangements (such as those illustrated in ch. 4) is vigorously enhanced.
We do not know, however, if and how will these trends affect employment expressed in full time-equivalents. We believe that Italian labor legislation is now easing up towards part time and short time arrangements, but it is crucial that the socio-political acceptance of job-sharing in its various forms should in no way be impeded.
On the other hand, if we turn to the high skill-tail of the occupational ladder, we find that:

(i) part-time is not perceived as a solution that helps flexibility by large firms (ch. 4.1.3);

(ii) temporary work contracts and flex-time arrangements are viewed by large firms as more suitable instruments to enhance employment;

(iii) firms specialized in the provision of producers' services tend to be small. Due to the highly labor intensive nature of their output, economies of scale are not of great relevance, and "minimum efficient size" is reached at small scale of operations. Due to the rapid pace of innovative activity in the line of producers' services and to the highly competitive environment, entry is easy (as witnessed by annual birth rates of 10-15%), the risk of closure high, overall life expectancy short. Flexibility is, once, again, the name of the game.

Labor market flexibility may therefore be a necessary condition for employment growth at both ends of the professional ladder (the high skills and the low skills), as well as both ends of the size distribution of perspective employers (the large firms and the small ones).

5.10. Spatial differences in future patterns of development

We have already pointed out at some geographical differences in the patterns of occupational mix observed in the decade 1971-1981 (ch. 2).
Some experts predict that in the years to come regional development patterns may shift again onto new paths: the North-West regions may impress additional momentum to further expansion of the service sector - especially in the area of advanced and business-related services - which may counterbalance the lasting negative impact associated with the decline of traditional industries.
We may - at the same time - have to face a deceleration of the growth rates of medium and small manufacturing industry in the North-East-Centre regions, after a decade of very rapid expansion.
While these developments look as a sort of natural perspective outcome after many years of major regional imbalance, there are other important regional differences that may be loosened or strengthened as a consequence of government policy.
In the past and recent past access to financial incentives, tax rebates, employment subsidies (in the form of fiscalization of social security contributions) have all been generously granted to firms localized in the Mezzogiorno. Yet it may be questioned whether these factors have had any impact on employment and on the observed inflow and outflow of business firms:

(i) abnormally high level of business turbolence, hinted by annual birth and failure rates of 20% and over, infant mortality rates in excess of 25% for the first year of operations, are common to most of the Southern regions;

(ii) while excess capacity and operating losses in the state-owned, highly capital-intensive enterprises located in the Mezzogiorno have been widely publicized for years, there is some evidence, that such problems may not be circumscribed to the larger firms;

(iii) excess and unused capacity among medium and small firms located in the Mezzogiorno has been found for the period 1977-1981: lower-than-average working hours, lower-than-average performance indicators such as productivity and gross profits, pointing at the high cost-low efficiency of the traditional policy instruments (11).

NOTES CHAPTER 5

(1) W. A. Baumol, "The anatomy of the urban crisis", American Economic Review, (1959).

(2) The first illustration of the Scandinavian model is due to O. Aukrust (1961). See also A. Lindbeck.

(3) B. Contini, "Firm size and the division of labor", Banca Nazionale del Lavoro Quartely Review, Dec. 1984.

(4) G. Stigler, "The division of labor is enhanced by the size of the market", Journal of Political economy, (1951).

(5) B. Contini and R. Revelli, op. cit. (1986).

(6) For a good discussion of these issues, see J. Tedeschi, "Per una ricerca sul ruolo dei servizi nella divisione internazionale del lavoro", Rivista Internazionale di Scienze Sociali, Sept-Dec. 1984.

(7) F. Momigliano and D. Siniscalco, "Mutamenti della struttura del sistema produttivo e integrazione tra industria e terziario", Moneta e Credito (1985).

(8) Notice that Momigliano and Siniscalco exclude all retail trade-services from their calculations.

(9) B.L.S., "Employment Projections for 1995", Bureau of Labor Statistics Bulletin, n. 2197 (1984). See also R.E. Kutscher, "Tendenze e prospettive di posti di lavoro e delle professioni negli Stati Uniti", in IRER, Tecnologia, Professioni e Città, F. Angeli, (1985).

(10) The major doubts relate to the capability of the public sector to create almost .5 million permanent positions specialized in the preservation of the environment, monuments, art works and sites of historical interest. A vigorous effort in this direction would be very appropriate: the creation of "permanent" positions does not deny the principle of job-sharing or temporary assignments to young workers, which is certainly in the spirit of the document by the Ministry of Labour, the main ispirer of this proposal.

(11) R&P, Ricerche e Progetti, The determinants of productivity and employment in Italy's SME in manufacturing, Study prepared for the E.E.C., D.G.V. (1984).

CHAPTER 6

Conclusions

6.1. Employment growth and the quest for flexibility

In Italy the 1971-1981 decade has witnessed a process of "polarization" of the job market, with many highly skilled professions and low skilled occupations growing rapidly at the expense of some intermediate skill-positions.
In forecasting future developments, it appears that while there is no one-to-one correspondence between the new areas of employment and job creation, it is likely that some of the thrust behind the economy touches upon both issues.
The search for flexibility is basic for the understanding of the introduction of flexible automation in many sectors of manufacturing industry, as well as for the interpretation of the recent trends in the deverticalization process that explains why so many small firms have been established in recent years.

Some of the new jobs will be created within large organizations, some in small independent units; some will have to come from the public sector, many may find fertile ground in the black economy.
In any case the quest for flexibility may determine - to a large extent - the organizational framework within which the new job holders will be placed. The latter, in turn, may be heavily influenced by the existing institutional framework on labor contracts and by the system of industrial relations.

There is wide consensus on the expansion of future demand for the new top-skill occupations (I.T.-related professions in the factory as well as in administrative tasks; occupations in high technology and science-related activities) - the degree of uncertainty refers to its rate of growth (will it be higher than 10% or only between 4 and 6% ?) - almost independently of the upswings of the economy. Top-skill occupations - crucial as they may be for the economy as a whole - will not amount to more than a small share of total employment.
More doubts have, instead, been raised on the employment potential of the intermediate and low skill jobs in the years to come. Many of the low skill occupations that have expanded in the Seventies and early Eighties in the USA, are also expected to continue their growth in the Nineties. Such an expansion was (and will be) characterized by a vast utilization of part-timers or temporary workers: indeed it has been made possible by the very existence of such institutional flexibilities in the U.S. labor market.

It is our convinction that similar patterns may take place in Italy in the next future, provided that the recourse to flexibile contractual arrangements is vigorously enhanced. Preliminary data suggest that the Italian economy might be moving in the right direction, but it is crucial that the socio-political acceptance of job-sharing in its various forms should in no way be impeded.

At the intermediate skill-level of the occupational ladder we find that while part-time is not perceived as a solution that helps flexibility by large

firms, temporary work contracts and flex-time arrangements are viewed by large firms as more suitable instruments to enhance employment.

If we turn to one of the prominent areas of employment growth, that of producers' services, we find a remarkable prevalence of small firms. Due to the highly labor intensive nature of their output, economies of scale are not of great relevance, and "minimum efficient size" is reached at small scale of operations. The rapid pace of innovative activity in the line of producers' services and the highly competitive environment favor easy entry (as witnessed by annual birth rates of 10-15%), and high risk of closure.

Labor market flexibility may therefore be a necessary condition for employment growth at both ends of the professional ladder (the high skills and the low skills), as well as both ends of the size distribution of perspective employers (the large firms and the small ones).

6.2. Matching problems and related policies

Serious problems of adjustment in the labour market have been a feature of the last fifteen years: the skill level of the new entrants to the labour market is often viewed as inadequate by the employers; yet the older workers who lose their jobs in declining industries cannot be retrained to fill other positions.
Evidence of serious mismatches in specific job markets has been encountered.

Policies of organizational support and information, aimed to improve the functioning of markets by acting directly on their information and organizational structures, would greatly help the solution of such problems. In general this implies setting up new agents to provide services to firms and individuals:

(i) active manpower policies
- assistance in job hunting and matching;
- redeployment of redundant labour and retraining programs;

(ii) small enterprise support systems
- organization of mixed groups aimed at promoting localization of new firms in particular areas;
- centers offering technological assistance, marketing and product research facilities, legal counseling, financial and fiscal consulting, software preparation and computing facilities, accounting services.

In principle there is no reason why such services cannot be provided by a private agency. In this case state involvement may be limited to authorising operations and, if necessary, providing guidelines. More often however we come across problems of market failure (due to high initial investment, limited market size etc.) where public intervention may be necessary. Here

centres offering assistance with technology, marketing, quality standardization etc. are needed, and the personal involvement of local businessmen in the making and running of such undertakings may be a crucial ingredient of success.

It is difficult to estimate the potential results of these initiatives both with respect to (i) and (ii). In Italy the initial success would undoubtedly be considerable since they would be starting from scratch.

Lastly, policies can be differentiated in relation to their basic strategy. At one extreme one may try to encourage the setting up of new firms (accompanied usually by high rates of failure); at the other extreme one may attempt to prolong the life of existing firms. Often the former strategy involves policies aimed at single entrepreneurs while the latter policies are usually directed towards entire SME systems.

Other policy options are based on the existence of externalities derived from the education and training system. There are important arguments in favor of supply-side policies, aimed at promoting externalities associated with the education and training system specific to local SME systems, or industrial districts. The production and innovation of each small firm depends to a large extent on the quality of the management and workers of all the other firms in the system.
The level and quality of schooling, especially in technical and scientific subjects, the development of managerial education and skills, the promotion of on-the-job training programs, are all crucial in determining a favourable business environment.

It has also been suggested, on the other hand, that tax and financial incentives have only a minor influence to play on location decisions of new firms. A much greater role seems to be played by the economies of "agglomeration", such as the existing concentration of industrial jobs and the average skill of the local workforce.

6.3. The impact of demographic trends on unemployment

The illusion that the unemployment problem - in particular youth unemployment - may slowly come to an end as a consequence of the demographic decline is ill placed. On one hand it is true that the yearly inflow into the labour force of young men and women in their twenties is close to one million today, and that by the end of the nineties this figure will have declined to 600 thousand. On the other hand it is also a fact that - with a rapidly aging population - inspite of the lowering of the retirement age (or - perhaps - because of it), an ever increasing number of retired persons make themselves available for various forms of work, in particular for part-time positions and self-employment in both skilled and unskilled service occupations. As a matter of fact the endemic financial crisis of Italy's pension and social

security system is likely to trigger solutions in two directions:

a) moving back to a higher retirement age (there is already a proposal of the Ministry of Labour to increase it again to 60 years);

b) increasing the share of private contributions to the national health service of all eligible citizens, regardless of age, provided that they do not belong to the lowest income brackets.

This means that - aside from the personal reward that many "young" pensioners would derive from being "active" - the need to earn something in top of one's pension will be stronger in the years to come.
As was discussed at length in ch. 5, employment in many low skill occupations will rapidly expand in the next decade with an increasing share of part-timers and temporary workers. Here the older segments of the labour force will be in fierce competition with its younger segments, and the outcome of such a struggle is not at all obvious. If we are to draw insights from the U.S. experience, it is likely that many of the younger segments of the labour force will be displaced by the older workers and that - as a consequence - youth unemployment rates will remain high inspite of the reduced demographic pressure.

6.4. Should we worry about technological unemployment ?

This is a legitimate question at the end of a report aimed at describing future trends in occupations and occupational content. Our view is in the whole ophimistic: technological unemployment may occur at the level of individual firms and specific industries; it is more unlikely for the national economy as a whole. In fact technological development and productivity growth have often expanded output rather than reduced employment in many economies of the Western World.
As of today, in the mid Eighties, the problem may be posed as follows:

(i) the manufacturing sectors will reduce employment in the years to come: the current shift of manufactured output to the Newly Industrialized Countries is likely to increase its speed - more than reducing it - thus pushing further the decline of manufacturing employment both in relative and absolute terms.
This will occur independently of the rate of technological innovation: in fact innovations in certain manufacturing processes may help industrialized contries to slow the pace of decline and retain a competitive advantage over N.I.C.'s competitors, thus delaying the migration of production facilities to the industrializing world;

(ii) the service sector - and especially the sector of internationally tradeable services - will be the major absorber of employment pushed out of manufacturing, provided that output be competitive on world markets.

In the absence of technological innovations in the service industries an upper ceiling to output expansion in all sectors producing home goods will be soon reached (the demand for traditional home services cannot expand beyond certain limits if there are valuable non-domestic substitutes available), with each worker being paid its (low) average product as in pre-industrial farming activities. The problems of the "working poor" would soon arise in the antiquated service sectors, while the industries specialized in the production of tradeable services would soon be outpriced by their innovative foreign competitors and eventually go out of business. Innovation in the service sectors is therefore crucial to avoid stagnation and long run decline;

(iii) technological innovations currently in sight in the service industries do not seem to affect the degree of labour-intensity of such sectors: they are, however, increasingly skill-intensive.

In conclusion, we share the view (1) that the service sectors have the potential to expand and absorb manpower which the shrinking manufacturing industries will not be able to employ. The degree of technological innnovation embodied in the new service industries must be such that their competitiveness on world markets be insured.
As the Leontief paradox reminds us, Ricardo's law of competitive advantage in international trade may indeed be working again in favor of countries endowed with educational background, high and diffused professional skills, innovative potential.
Technological innovation is a powerful guarantee against the threat of unemployment, not the other way around.
Employment policies alone will not suffice to remove this threat; in medium run the diffusion of high technology and technology-related skills is a necessary ingredient to enhance future employment.
Public policy cannot ignore this link: direct and indirect support to R&D, investments in the educational system aimed at promoting such diffusion can be no longer deferred.

NOTE CHAPTER 6

(1) See also A. Lindbeck, "Technological unemployment is not the problem", in G. Tamburini (ed.), Occupazione e tecnologie avanzate, Il Mulino, Bologna (1986).

REFERENCES

A. Baumol, "The anatomy of the urban crisis", American Economic Review, (1959)

B.L.S., "Employment Projections for 1995", Bureau of Labour Statistics Bulletin, n. 2197, (1984)

N. Cacace, Professioni e mestieri del 2000, Milano, F. Angeli, (1983)

U. Colombino, "A model of married women labour supply with systematic and random disequilibrium components", Ricerche Economiche, (1985)

U. Colombino, "Efficienza ed equità nei programmi di redistribuzione del lavoro, MICROS, (1985)

U. Colombino, D. Gambetta, F. Rondi, L'offerta di lavoro giovanile in Piemonte, Milano, F. Angeli, (1982)

U. Colombino, A. Zabalza, Labour supply and quantity constraints: results on female participation and hours in Italy, Discussion Paper n. 125, Centre for Labour Economics, London School of Economics, (1982)

B. Contini, "Firm size and the division of labour", Banca Nazionale del Lavoro Quarterly Review, Dec. 1984

B. Contini, Lo sviluppo di un'economia parallela, Milano (1979)

B. Contini, R. Revelli, "Birth and death in Italian manufacturing firms: implications for the study of market forms and job creation", L'Industria, VI, 2, (1986)

M. Deaglio, Economia sommersa e analisi economica, Torino, G. Giappichelli, (1985)

D. Del Boca, "Salari e offerta di lavoro full-time e part-time", MICROS, (1985)

ENEA, Ente Nazionale per le Energie Alternative, Nuove professioni per la fine degli anni Ottanta, Roma, (1985)

Federazione Regionale fra le Associazioni Industriali della Lombardia, Intersind Delegazione per la Lombardia, L'occupazione nell'industria lombarda. Situazione, caratteristiche, previsioni. Rapporto annuale 1986, Milano, (1986)

Fondazione Agnelli, L'istituto del part-time in Italia e all'estero, Torino, (1982)

C. Freeman, L. Soete, "Innovation diffusion and employment policies", Conference on the Diffusion of Innovation, Venice, (1986)

ISFOL, Formazione. Nuove tecnologie. Professionalità, Rapporto ISFOL, (1985)

A. Lindbeck, "Technological unemployment is not the problem", Occupazione e tecnologie avanzate, Bologna, II Mulino, (1986)

C. Marchese, G. Ortona, "La domanda di lavoro a tempo ridotto", MICROS, 2-3, (1984)

A. Martelli, "Gli atteggiamenti dei direttori del personale delle imprese industriali italiane sul lavoro a tempo parziale", ENI - Quaderni Personale, n. 1, (1980)

Ministero del Lavoro e della Previdenza Sociale, La politica occupazionale per il prossimo decennio, Roma, (1985)

F. Momigliano, D. Siniscalco, "Mutamenti della struttura del sistema produttivo e integrazione tra industria e terziario", Moneta e Credito, (1985)

R. Monducci, M. Scarfone, Le nuove professioni in Italia, Fondazione Brodolini, Roma, 1985

M. Paci, Mercato del lavoro e classi sociali in Italia, Bologna, Il Mulino, (1973)

R&P, Ricerche e Progetti, The determinants of productivity and employment in Italy's SME in manufacturing, Study prepared for the EEC, DG V, (1984)

L. Ricolfi, "Part-time e economia sommersa", MICROS, n. 2-3, (1984)

G. Stigler, "The division of labor is enhanced by the size of the market", American Economic Review, (1984)

J. Stiglitz, P. Shapiro, "Unemployment as a Worker Discipline Design", American Economic Review, (1984)

J. Tedeschi, "Per una ricerca sul ruolo dei servizi nella divisione internazionale del lavoro", Rivista Internazionale di Scienze Sociali, Sept.-Dec. 1984

Unione Industriale di Torino, Il mercato del lavoro in provincia di Torino, Torino, (1981)

Unione Industriale di Torino, L'utilizzo dei contratti di formazione-lavoro nell'industria torinese, Torino, (1985)

Unione Industriale di Torino, Offerta e domanda di lavoro in provincia di Torino: prospettive per il 1987 e il 1990, Torino, (1985)

A. Weiss, "Lay-offs with flexible wages", Journal of Political Economy, (1980)

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