

The Occupational Profile of the Economists from Minas Gerais: what does an Economist do?

1. Introduction

The organization of a syllabus for a degree must take into account above all the internal consistency of the courses offered. Fortunately, or unfortunately it further depends on the *weltanschauung* of today's science. Yet, attention should also be drawn to the future occupations of the graduates lest their academic training should give rise to both social tensions and misallocation of educational funds.

Preoccupation with the last question led us in 1969 to a follow up study of the economics graduates of the School of Economics of the University of Minas Gerais. The records of both the Economists Syndicate and the Association of Economists from Minas Gerais were used to enable the enumerators to locate the prospective respondents. The survey was backed by the Students Union which also provided the enumerators.¹

We originally intended to interview the whole population of economists living in Belo Horizonte and outlying districts. The sources above indicated that there were about 400 prospective respondents. However, due to difficulties in locating some economists, as well as a certain unwillingness of others to cooperate, only 140 persons were interviewed during the permissible time.

Since the anonymity of the respondent was ensured and no embarrassing questions included, it would perhaps be worth our while to try to find out the reasons for that unwillingness. Is there such a high degree of professional frustration?

The questionnaire was built upon the assumption (which the writer, as well as many young professors, have long supported) that *the market for economists is very thin and has long since been saturated*. Yet, for some accidental as well as historical reasons, the market has been mistakenly described so as to include activities which from a strict standpoint should be typical of the business administration graduate. The wide

¹ In particular we would like to thank Antonio Carlos Ribeiro.

acceptance of this fallacy entailed an artificial expansion of both the market and the courses for economists, to the detriment of the market and courses for business administration. This is not the place to dwell at length on this point of view which, incidentally, is held by many highly ranked economists of our acquaintance.

Many questions were framed for the purpose of checking the compatibility between the occupations held by the respondents and their academic training as students of economics. This purpose, however, was not disclosed to respondents who, for the most part, did not perceive it.

Unfortunately the sample cannot be considered as randomly drawn, as far as occupation is concerned. It covered too many institutions employing several economists (Development Bank, Universities etc.) and too few business and industrial firms which, as a whole, employ most of the graduates. This obviously led to biased results which tend to overestimate the share of economics graduates who work as economists.² Nevertheless, biased as they are, these results disclose many features of the occupational structure of the economists. We proceed by examining individually each question from the questionnaire presented to the sample.

2. The Questionnaire

2.1. Employer

In this first question we asked the respondent to state his employer. This question as well as almost all the remaining were open; upon tabulation the results were grouped according to some suitable taxonomy.

From Table I it may be seen that 74 economists are engaged in public or quasi-public agencies, while only 39 are working in private firms. As mentioned, this proportion does not reflect the occupational distribution of the graduates but rather results from the fact that a comparatively larger number of economists working for the public sector was interviewed since they could be more easily contacted.

² In addition, the School of Economics being one of the best in the country, its graduates have a much greater likelihood of being employed as economists as compared to the typical Brazilian economist graduate.

Table 1
Employer

Employer	Number of interviewed	Public	Private
Commercial Banks	20		20
Civil Services	16	16	
Other Government Offices	14	14	
BDMG	13	13	
UFMG	11	11	
CEMIG	10	10	
Bank of Brazil	10	10	
Project Firms	7		7
Commerce	7		7
Industry	5		5
USIMINAS	5		5
Assistance to Trade Unions	3		3
Data Processing	3		3
Others	3		
Total		74	30

2.2. Other Occupation

Respondents were asked about other occupation they held in addition to their main employment. The survey shows that more than 30 per cent of the respondents had more than one occupation. Table 2 disclosed a dismal situation: teaching is a subsidiary employment. There is an overwhelming prevalence of teaching as a secondary employment.

Table 2
Other Occupation

Other Occupation	Number of interviewed
Teaching in Universities	19
Civil Services	8
High School Teaching	7
Projects Firms	5
Assistance to Business Concerns and Trade Unions	4
Accounting	1
Others	1
Total	45

2.3. Function or Position

This question relates to the formal link (function of position) between the respondent and the firm for which he works. The first column of Table 3 shows the frequency distribution. The second column shows the function or position grouped according to their relationship with economics, business administration and other activities. Two words of caution will behoove the reader: first, the classification was made in accordance with our own views on what is economics and business administration. Although this classification is by no means subjective or personal, it may be challenged by economists of different persuasions.⁸ Secondly, whenever there was room for doubt, the occupation was classified as economics.

The survey shows that 68 per cent of the respondents were engaged in activities which, *prima facie*, might be considered to fit the academic background of an economist.

Table 3
Function or Position

Function or Position	Number of interviewed	Economy	Adm. and others
Economist	58	58	
Assistant	13	13	
Function Unrelated to Economics	13		13
University Professor	9	9	
Head of Division	9		9
Direction	5		5
Technical Assistant	4	4	
Auditor/Accountant	3		3
Head of Section	3		3
Cost Analyst	2		2
Programmer	2		2
Others	2		2
Blank	4		
Total		84	39

2.4. Description of Work

The tabulation of the *description of work* is shown in Table 4. The respondent was allowed a maximum of three different answers, which were, their rankings notwithstanding, added together. It follows that the

⁸ For an excellent discussion of this issue see MACHLUP, F. *Micro and Macroeconomics. Essays on Economic Semantics*. E. Cliffs, N. J., Prentice-Hall 1963, p. 97-144.

number of answers is not directly correlated with the size of the sample. Since only one third of the respondents gave more than one answer, this peculiarity of the processing is no cause for concern. The answers may be held as roughly reflecting what economists are doing.

The grouping of the information according to the previous criterion shows that the percentage of economists falls to 53 per cent. This means that *while the formal position held by the respondent, as appearing in the records of the firm, shows that 70 per cent of the positions matched the undergraduate background of an economist, the job description shows that only half are working as economists.*

Table 4
Disription of Work

Specification	Number of answers	1.°	2.°	3.°	Econ.	Ad.	Others
Researches	25	21	4	—	25		
Projects	20	13	7	—	20		
Financial and Budgeting Management Assistance	19	14	4	1		19	
Regional and Municipal Planning	17	11	4	2	17		
Auditory/Accounting	16	14	2	—	16		
Bureaucracy	13	6	6	1			13
Cost Analysis and Allocation	13	12	1	—			13
University Teaching UFMG	12	8	4	—		12	
Organization and Methods	11	9	1	1	11		
Marketing	9	7	2	—			9
Reports Making	8	5	3	—			8
Electronic Programming	8	5	3	—	8		
University Teaching — (Others)	5	4	1	—			5
Others	3	1	2	—			3
High School Teaching	2	2	—	—			2
	1	1	—				1
Total		133	44	5	97	79	6

2.5. Work Aspired as a Student

The *work aspired as a student* must reflect to a certain extent the kind of career the graduates sought. Should the occupational aspirations of the student be frustrated one would expect to find both a better organized trade union and a dissatisfaction with their careers. (It seems that the second assumption holds true for lawyers.) Such assumptions, however, were not confirmed by the survey.

From Table 6 we can see that 61 per cent of the respondents aspired to careers we consider typical of an economist. This percentage is close to that of the graduates involved with economists' jobs. *Prima facie*, there is no lag between aspirations and realization. Nevertheless, it is important to notice that 39 per cent of the respondents aspired functions we considered as not fitting our definition of economics, yet they enrolled in economic courses. Obviously, a course on business administration would fit better their aspirations (and present jobs).

The higher status afforded by the degree in economics might justify such an unreasonable individual decision. However, the disfunctional character of the decision, when taken by a group, must be stressed lest we fell into the fallacy of composition. In point of fact, the occupational aspirations of the young have not been frustrated. The real trouble is that there is a mismatch between the aspirations and the choice of course of study. We once referred to this phenomenon as the "micro-economics myth".⁴

Aspirations have been disappointed only in the sense that the syllabus is not considered satisfactory to their business administration career aspirations. This may be one of the reasons why so many eligible respondents showed unwillingness to cooperate with the survey.

Table 5
Work Aspired as Student

	Number of Interviewed	Economy	Admins.
Planning and Diagnosis	42	42	
Economics of Business Enterprises	33		33
Projects	9	9	
Assistance	8	8	
Professor and Researcher	6	6	
Financial Management	4		4
Cost Analysis	4		4
Others	6		
Blank	15		
Total		65	41

⁴ FEDERAÇÃO DAS INDÚSTRIAS DE MINAS GERAIS. O Mito do Microeconomista e a Inflação de Economistas. *Vida Industrial*, agosto de 1966.

Attention must once again be drawn to the fact that 33 economists had wished to work as *business economists*. We entered this choice under the heading Business Administration. Given the highly theoretical level of what may be called *economics of the firm* and given the existing business decision mechanisms, as well as the nature of the everyday routines of firms, we believe that the business administration courses still offer the most appropriate syllabus for those who wish to work for a Brazilian firm. We further believe, however, that a good introductory course on economics is a must for business administration majors — business schools often offer perfunctory courses on economics.

2.6. Courses (subjects) Believed to be the Most Usefull to Present Occupation

This question was merely a device to investigate the same matter: business administration or economics? The respondents were asked to enumerate the three courses thought to be the most useful for present occupation.

One third of the answers referred to instrumental disciplines (statistics, mathematics, etc.) while the remaining were equally distributed between economics and business administration. This implies that knowledge acquired through the three only courses offered on business administration is on the average as important as that of all the courses on economics put together.

Table 6

Courses (Subjects) Believed to be Most Useful to Present Occupation

Courses (Subjects) More Useful	Number of interviewed	1.º	2.º	3.º	Econ.	Adm.	Instrum
Statistics	82	62	9	11			82
Costs	44	11	27	6		44	
Budget analysis	30	8	8	14		30	
Projects	29	12	13	4	29		
Programming	23	5	14	4	23		
Mathematics	21	—	10	11			21
Economics	20	7	10	3	20		
Prices	16	2	6	8	16		
Accounting	15	4	7	4		15	
Others	46	8	11	27			
Blank	57	8	14	35			
Total					88	89	103

2.7. Disciplines to be Included in the Syllabus

This is a variant of the previous question, and it also asked for three suggestions of courses to be included in the syllabus. The answer most frequently given refers to the improvement of the existing courses, rather than addition, which we consider a valid criticism of the system. In fact, given the existing overcrowded syllabus, the basic issue is not to increase the number of courses but rather to increase the efficacy of those already offered.

Fourteen out of the 34 per cent who wished courses related to economics asked for courses on economic development and Brazilian economy — a reasonable request inasmuch as these are important courses in the Brazilian context. Six per cent requested courses on other social sciences.

Fifty two per cent of the answers referred to courses on some area of business administration. One can see again that the respondents' choice of academic career and the work he is engaged do not coincide.

Table 7
Disciplines to be Included in the Syllabus

	Number of interviewed	1.º	2.º	3.º	Econ.	Adm.	Instr.
Improvement of the existing ones	41	36	5	—			
Brazilian Economy and Development	14	12	—	2	14		
Financial Management and Capital Market	10	7	3	—		10	
Operacional Research	10	9	1	—		10	
Electronic Computer	8	8	—	—			8
Other Social Sciences	6	5	1	—	6		
Fiscal and Labour Law	5	3	2	—		5	
Economics of Business Enterprises	5	2	3	—		5	
Marketing	3	3	—	—		3	
Others	10	9	—	1			
Blank	274	37	112	125			
Total					20	33	8
Percentual					34%	52%	14%

2.8. Complaints Against the Academic Background Provided by the School

Respondents were asked to comment on the quality of the schooling received, as with all other question examined so far this was an open question; meaning that the respondent was given full freedom to decide on how it should be answered. More than 50 per cent of the answers were to the effect that the courses had no practical importance or were highly theoretical. Such answers may be given two different interpretations. They either mean to say that the courses were not supplemented by drills, problems, practical applications, examples and illustrations so as to enable the student to fit the analytical schemes into that segment of the real world he is familiar with; or, they may represent the common error of considering as too theoretical any model which is forced onto a context for it was not intended. All models are necessarily theoretical and are at a higher or lower level of abstraction. Should the level of abstraction be too high for what one has in mind, the blame is on the person who is using it rather than on the model itself.

There is no evidence on which we may rely to say which interpretation is more likely. Nevertheless, we offer the hypothesis that a good many answers arose from frustrated attempts to use the theory of the firm and the theory of production as operational tools for the understanding of the processes of decision-making within the producing units.

Table 8

Complaints Against the Academic Background Provided by the School

	Number of interviewed	1. ^o	2. ^o	3. ^o
Highly Theoretical	43	41	1	—
No Practical Importance	31	30	—	1
Syllabus and Professor Outdated	10	8	2	—
Low Level of Some Disciplines	10	9	1	—
Superficial and Disconnected Syllabus	10	6	4	—
No Research Work	7	5	2	—
Sloven Professors	6	4	2	—
No Teaching Technique	4	1	1	2
None	8	8	—	—
Others	5	5	—	—
Blank	247	10	113	124
Total	384	124	124	136

2.9. The Reading of Journals and Periodicals

Respondents were asked to cite three periodicals most usually read. These were subsequently distributed among four categories: 1. Economics which include journals dealing with economic at a level of analytical sophistication superior to what is found in the current economic sections of newspapers (e.g. *Revista Brasileira de Economia*, *American Economic Review* etc.), 2. Information, including periodicals like *Visão*, *The Economist* etc. 3. Technical journals on Business Administration (e.g. *Revista Brasileira de Administração de Empresas*). 4. Technical periodicals dealing with the branch of activities the respondent is engaged in (e.g. *Máquinas e Metais*).

Economic journals have the highest frequency, followed by information periodicals. The classification of the periodical *Conjuntura Econômica* is crucial in view both of its great popularity among the respondents and the difficulty of deciding on the right classification. *Conjuntura* publishes the kind of information that both the economists and business administrators are likely to seek. The fact that it was classified as economics raised substantially the frequency of this category.

Table 9
The Reading of Journals and Periodicals

	Number of answers	1.°	2.°	3.°	4.°
Economics	89	44	43	2	—
Information	82	63	14	5	—
Administration	37	5	16	16	—
Technical Periodicals	11	6	2	2	1

2.10. Books Often Consulted in Professional Work

Respondents were asked to cite, the three books more often consulted at work. The following books were cited five or more times — in decreasing order: ⁵ UNITED NATIONS. *Project Handbook*. SPIEGEL, M. *Statistics, Theory and Problems*. SAMUELSON, P. *Introduction to Economics*. HERMAN JR. *Estrutura e Análise de Balanços*. STONIER, A. & HAGUE, O. *A Textbook*

⁵ For most of the books the Portuguese translation was cited.

of *Economic Theory*. BARRE, R. *Economie Politique*. CROXTON, F. *General and Applied Statistics*. HOEL, P. *Introduction to Statistics*. SCHNEIDER, E. *Introduction to Economic Theory*. FURTADO, C. *Formação Econômica do Brasil*. JOHNSON, R. W. *Financial Management*.

The classification of the books under the headings economics, business administration and instrumental books is presented in Table 10.

Table 10
Books Often Consulted in Professional Work

Type	Frequency
Economics	75
Business Administration	60
Instrumental	58

Excluding instrumental books from total we found that 45 per cent of the books were on business administration.

It is interesting to realize that almost all books cited are popular texts in some course offered at the School of Economics and Business Administration. There is little innovation in book titles.

2.11. Books used in School which are Still Useful

This question is a modified version of the previous one subject, however, to the additional constraint that the books should have been used in school.

Table 11
Books Used in School Which one Still Uses

Type	Frequency
Administration	52
Economics	97
Instrumental	57

One can observe a fall in the frequency of books on administration. This may imply that respondents were compelled to purchase books on business administration after leaving school. From the previous question we see that almost half of the books consulted were on business administration. When account is taken now only of the books used during school it is seen that two books on economics are consulted for each one on administration. It seems that, while in school, respondents purchased less books on administration than necessary to meet their professional needs, or, the reading lists did not match their professional needs.

2.12. Improvement in the Quality of Teaching in the School of Economics

As seen in Table 12a, while 39 respondents believe that there has been an improvement in the teaching, 12 hold the opposite view. On the basis of additional evidence and from the high number of respondents who felt that the quality of the course has really improved it would be interesting to find out why those 12 respondents believe that the standards have fallen. Is it *saudosismo* or *ad hoc* opinions against the present professors? In addition, about half of the respondents failed to respond to this question. Can this be taken as an indicator of occupational anomie?

The next question asked the respondent to set forth the reasons for his last answer. Unfortunately, the wording of the question did not fully translate our purpose and confusion arose as to whether the respondent should state the facts which led him to believe that there has any improvement (or no improvement) or should refer to the source of information on which his opinion was grounded.

Table 12a
Improvement in the Quality of Teaching in the School of Economics

Has the Level of Teaching improved?	Number of interviewed
Yes	39
Do not Know	30
Recently Graduated	13
No	11
Blank	36

Table 12b
Reasons for the Last Answer

Reasons for the Last Answer	Number of interviewed
Improvement in the Syllabus and Basic Course	11
Contact with Recently Graduated Economists	9
Improvement in the Faculty	8
Full Time and Scholarship	2
Blank	97

2.13. Engineers in the Economists' Market

This question was designed to find out the economists' opinion on an issue which has been much debated and stems from the creation by IPUC⁶ of a course on economic engineering. More than 80 per cent of the respondents believe that there are engineers interfering with the economists' market, i.e., occupying positions believed to belong to the professional competence of economists. Unfortunately this question was poorly worded reducing the usefulness of the responses. ("Are there engineers occupying economists positions?" It would be enough to know that there was one engineer discharging the duties of an economist to warrant an *yes* answer.) It would have been better to ask whether the engineers' competition was serious or threatening.

Table 13b shows the areas where there would be interference. The indication that there are engineers competing in the planning and project sectors reflects a sample which overestimates the number of respondents in the BDMG⁷ and project firms. In this sector there is actually room for an overlapping of activities which is unlikely to be avoided. Most projects cover engineering and economic aspects and therefore it is inevitable that practitioners operate in each other's fields.

What is indeed curious is that when saying that engineers are operating in the economists' field 35 respondents referred to areas we believe should be better tackled by business administration graduates rather than economists. Twenty two of the answers referred to areas which even those who do not share our opinion would definitely accept

⁶ Instituto Politécnico da Universidade Católica.

⁷ Banco de Desenvolvimento do Estado de Minas Gerais.

Table 13a
Engineers in the Economist's Market

Are There Engineers in the Economists Market?	Number of interviewed
Yes	87
No	20
Blank	20

as areas for a business administration graduate. No one would contend that the jobs of manager, director and organization and method expert should be discharged by economists. It seems that we face here a *freudian slip*. In an attempt to defend their own profession against the engineers, respondents implicitly claim for them an area which undisputedly belongs to the business administration graduate.

Table 13b
Areas Where There Are Engineers in the Economist Market

Where?	Number of interviewed
Projects	22
Cost Analysis	8
Direction	8
Management	7
Planning	6
Economics of Business	5
Financial Management	5
Organization and Methods	2
Others	---
Blank	64

3. The Socioeconomic Profile of the Economists

In the ensuing questions we investigate the socioeconomic status of the respondent and his father as well as the number of years of his professional experience.

3.1. Monthly Income

We asked respondents to state their income, including bonuses, gratifications and other allowances. We wanted gross income with no deductions for direct taxes or social security.

The modal income ranges from Cr\$ 1.000,00 to Cr\$ 1.500,00 (1969). If we realize that the engineers' minimum salary was Cr\$ 1.200,00 it can be seen that the economists' salaries are at least reasonable.

Table 14
Monthly Income

Level Income	Number of interviewed
Less than 400	1
400 — 700	12
700 — 1 000	29
1 000 — 1 500	48
1 500 — 2 500	27
More than 2 500	6
Blank	4

3.2. Time Elapsed Since Graduation

From the distribution of years of work experience we can see that there is a marked prevalence of younger economists in the sample. This is clearly a biased outcome, largely resulting from the type of employer visited by the enumerators. It must be borne in mind, however, that the size of the graduating classes has been steadily increasing since the creation of the School of Economics. In addition, the older the graduate the higher the likelihood that he has moved away from Belo Horizonte.

Table 15
Time Elapsed Since Graduation

Year	Number of interviewed
1944 — 1950	5
1950 — 1960	13
1960 — 1962	11
1962 — 1964	10
1964	18
1965	25
1966	22
1967	22

3.3. Method of Obtaining the Present Employment

This was a multiple choice question, with the alternative answers listed in Table 16. It can be immediately seen that employers in Minas Gerais do not recruit their employees through advertisement on newspapers.

Suggested by Talcott Parsons' pattern variables, we classified the *methods* into particularistic and universalistic as follows:⁸

Universalistic methods

Admission Tests	49
Admission after internship	23

Particularistic methods

With the help of friends	16
With the help of relatives	16

We can see that 69 per cent of the respondents secured their position by means of *modernistic* recruiting systems while 35 per cent resorted to *traditional* methods.

Table 16
Methods of Obtaining the Employment

Methods of Obtaining the Employment	Number of interviewed
Admission Test	49
Internship	23
Third Parties	16
Friends	16
Own Account	6
Relatives	3
Professor	0
Others	0
Newspaper Advertisement	0
Others	12

⁸ PARSONS, T. & SHILS, E. A. *Toward a General Theory of Action*. Cambridge, Harvard University Press, 1962.

3.4. Status of Father

This question asked for the father's occupation, which was subsequently classified into one of seven ranks using a revised version of the Hutchison scale of occupational prestige.⁹ Rank *seven* refers to nonskilled manual occupations; *six* to skilled manual occupations; *four* to white-collar workers; *three* to supervision of manual occupations and technicians of high school level; *two* to occupations requiring a college degree; and, *one* to diplomats, politicians and presidents of large corporations.

Table 17
Status of Father

Level 1	Frequency
1	0
2	32
3	63
4	16
5	2
6	3
7	1

It can be seen that one quarter of the respondents' fathers were classified in rank *two*. Half of the respondents had fathers in the rank immediately below their own's (*three*), implying a positive social mobility. Only four had fathers engaged in manual occupations which is a clear indictment against an educational system giving so few chances for the sons of blue-collar workers.

These results can be compared with those presented in the paper *Caracterização Sócio-Econômica do Estudante Universitário Brasileiro*.¹⁰ This monograph shows that, for the University as a whole, the fathers of about 20 per cent respondents can be classified in rank *two*, contrasting with 27 per cent of our economists' sample. This means that our sample — in which the young graduates are overrepresented — shows a larger

⁹ HUTCHISON, Bertrand. *Mobilidade e Educação*. Guanabara, Ministério da Educação e Cultura, IBEP, 1958.

¹⁰ Research sponsored by the Centro Brasileiro de Pesquisas Educacionais (mimeo.) In this research the *original* Hutchison scales were utilized, creating some difficulties to compare with our revised scales.

number of respondents in the higher middle class than is to be found in the university as a whole.

In the *university* sample there are 38 per cent parents engaged in supervising non-manual occupations (*three*), our *economists* sample shows 54 per cent in the same situation. In the *university* sample 6.6 per cent of the parents were engaged in manual activities, contrasted with 3.4 per cent in our sample.

These comparisons seem to suggest that the students enrolled in the School of Economics are above the status mode for the University of Minas Gerais.

4. Cross-Tabulation of the Questionnaire

4.1. Function (or Position in the Firm) Cross-Tabulated with Years of Experience

The years of work experience were grouped under three classes (zero to four years, five to eight and nine or more years); the same classification that appeared in Table 3 was used for sorting out economists and non-economists. Table 18 is a contingency table showing the observed frequencies compared with the theoretical ones computed under the assumption of independent distribution of the variables.

We can see that economists who have graduated longer than nine years ago and who are engaged in economists' work are less numerous than it would be expected from a random distribution. To put it differently, the fewer the years of work experience the higher the probability that the economist can secure an occupation we consider suitable to his academic background.

Table 18
Contingency Table: Function and Experience

Experience \ Function	Economy		Other	
	Observed	Theoretical	Observed	Theoretical
8 years or more	7	-11	11	+7
4-7 years	27	+23	11	-13
less than 4	50	+41	29	-30

4.2. Job Description Cross-Tabulated with Experience

In this question we used the same procedure of the previous question except that *job description* is used instead of function.¹¹ The category *other* was suppressed because it is irrelevant to the present analysis.

Comparing the observed and the theoretical frequencies (Table 19), we see that the results are equivalent to those found in the previous heading (Table 18). Young economists are more likely to be engaged in activities which fit their academic background.

There is, however, one discrepancy in connection with the mid-experience group. In the previous case there were more "economists" from 5 to eight years of experience than it would be expected from a random distribution. Now, when the description of function is used, that is to say, when account is taken of the work the respondents are really engaged in, we find that this frequency of "economists" is less than expected from a random distribution.

Table 19
Contingency Table: Job Description and Experience

Job description \ Experience	Economy		Administration	
	Observed	Theoretical	Observed	Theoretical
8 years or more	6	- 7	9	+ 7
4-7 years	19	-20	19	+18
less than 4	38	+34	28	-33

4.3. Job Description in the Under Represented Sectors

We mentioned our sample bias against economists working alone or with few colleagues, in industrial or business firms. On the basis of *casual empiricism* we are led to believe that at least half or even possibly two thirds of the graduates fall into the said class.

¹¹ Both for Function (previous heading) and Job Description only the first answer was tabulated, so as to make each one answer correspond to one respondent. This is a minor detail in view of the fact that only one third of the respondents offered more than one answer.

We have taken the categories commercial banks, business, industry and other, to be under-represented in the classification of employers, and analysed it as a separate group. Now, classifying this group according to the description of work we can sort out those who work as economists from those who work as business administrators:

Under-represented sectors	}	Economists	11
		Business Administrators	19

Almost two thirds of the economists are engaged in activities which do not put to good use the courses included in the economists' syllabus. In other words, they hold an economists' degree yet they are in point of fact working as business administrators.

4.4. Books Cross-Tabulated with Years of Experience

We wanted to associate the books consulted with the age of the respondents (measured by years of experience). We preserved the tabulation of books under the headings of economics, business administration and instrumental.

From the contingency Table 20 we notice that older economists read more books on administration, less instrumental books and still less books on economics. Economists graduated from 4 to 8 years ago read more books on economics and less instrumental books than predicted from the theoretical frequency. This is perhaps due to the fact that they are not directly engaged in empirical work which makes necessary constant references to statistical texts. Younger economists read more books on economics and more instrumental books. Their more frequent consultations to statistics texts may be an evidence that economics in Brazil has attained in the last years a greater empirical content.

Table 20
Contingency Table: Books and Years of Experience

Books \ Experience	Economy		Administration		Instrumentals	
	Observed	Theoret.	Observed	Theoret.	Observed	Theoret.
8 years or more	2	- 3	5	+ 2	3	- 4
4-8 years	11	+ 9	6	0 6	9	-11
less than 4	21	+20	8	-11	29	+25

4.5. Origins of Books Cross-Tabulated with Years of Experience

Books were tabulated in accordance with their origins as French, Anglo-Saxons, and Brazilian. The classification refers to the country of origin of the author, and not to the language the book is read. The cross-tabulation of these categories with years of experience gives Contingency Table 21.

We can see that older economists prefer French books which are not so popular among the newly graduated. There is no definite trend for the Brazilian books.

Table 21
Contingency Table: Origins of Books and Years of Experience

Books \ Experience	French		English		Portuguese	
	Observed	Theoret.	Observed	Theoret.	Observed	Theoret.
8 years or more	2	+ 0	2	- 5	2	+ 1
4-8 years	0	- 1	14	-12	2	- 3
less than 4	1	0 1	26	+25	5	0 5

4.6. Income Profiles of Economists (Years of Experience Cross-Tabulated With Income)

The sample was cross-tabulated by income and years of experience. The mid-class point was taken for each income class in order to construct the histogram presented in Graph 1. (For example, the income class interval from Cr\$ 300,00 to Cr\$ 500,00 is Cr\$ 400,00.) The income profile follows the usual pattern for university graduates namely, income increases fast in the initial years and slowly thereafter.

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