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FINANCIAL AND ECONOMETRIC SERVICES STUDY

Prepared for

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October 4, 1976

SP-ECON-1-30



Table of Contents

- Introduction
- The Market Characteristics
- The Competition
 - Financial and Econometric Service Companies
 - The Big Three
 - The Newcomers
 - Another Potential
 - Interactive Computing Services Companies
 - Financial and Economic Data Bases
 - Data Base Contents
 - Leading Data Bases
- Market Service Requirements
 - Econometric Services
 - Economic/Financial Services
 - Economic/Financial Data Bases
 - Data Delivery
- Market Forecast
 - Forecast of Econometric Consulting Services
 - Forecast of Financial/Econometric Interactive Computing
 - Forecast of Financial/Economic Data Base Utilization
- Appendices
 - Appendix A
Econometric Services Companies
 - Appendix B
Interactive Computing Companies
 - Appendix C
Financial and Economic Data Bases



- A Market Forecast is presented for the three segments of the marketplace which projects a growth from \$40 million in 1976 to 158 million in 1981, representing an average compound annual rate of growth of 29%.



- The Market Characteristics

- The Financial and Econometric Information Services marketplace is characterized by three types of companies. Some of these organizations fit into more than one category.

- The Economic and Econometric Consulting firms offering both subscription consulting services, and econometric forecasting services through timesharing
- The Timesharing Vendors offering access to large data bases coupled with financial analysis software packages
- Firms offering financial and economic data bases either directly on-line, automated, or by publication, or through timesharing vendors.

- Input's Market Research Study of Users of Econometric Consulting Services

- Fortune 300 size users
- 15 of 22 used some service
- many used multiple services
- 9 of 15 (70%) were on-line using timesharing
- average consulting subscription cost was \$7,000/yr
- average timesharing costs were \$17,000/yr

- Conference Board estimate of Data Based Economic/Econometric Services Market in 1973 was \$20M, growth compounded 25-30%/yr. 1976 market size is estimated at \$40m.

- Input's market analysis indicates that in 1975 approximately 11% (\$120M) of all Interactive and Remote Computing revenues were associated with data base operations. This will increase to 14% (\$550M) by 1981, for an average annual growth rate of 29%.

- Gross analyses would indicate that 25% of data base applications occur in the economic/econometric marketplace.



- The Competition

- The Financial and Econometric Services Companies

- The Big Three

- Data Resources Incorporated

- The integrated company offering econometric consulting services; interactive timesharing; and comprehensive data bases
- 1976 Revenues \$15.6M, 50% of which are from its time-sharing operations, growing at a rate of 25%/yr with over 400 clients, almost all of whom are on-line
- Service primarily Fortune 300 Companies and larger banks and financial intermediaries

- Chase Econometrics, Incorporated

- Until recently not fully integrated. Offers economic and econometric consulting services directly, and forecasting models and data bases through two time-sharing services, IDC (now a Chase subsidiary) and ADP Cyphernetics. A larger number of subscription customers than timesharing users.
- 1976 Revenues \$8.5M, 80% of which comes from on-line clients, growing at a rate of 20%/year with over 700 clients
- Service primarily Fortune 300 Companies and larger banks and financial intermediaries.

- Merrill Lynch Economics

- A reorganization of Lionel Edie Economics, an old line financial advisory service. Offers both financial, economic and econometric consulting services directly, and econometric forecasting and data bases through Interactive Data Corporation (IDC).
- 1976 Revenues \$6.5M, 50% of which comes from subscription consulting, growing at the rate of 25%/year, with over 280 clients



- Services Fortune 500 Companies, as well as large and medium size banks and financial intermediaries.
- The Newcomers
 - Wharton Economic Associates, Inc. (non-profit)
 - Until recently WEA offered only subscription econometric consulting services to a small group of clients. Within the past year they went on-line with Boeing Computer Services (BCS) for both their forecasting models and their data banks. BCS added a U.S. regional (4 regions) data bank.
 - 1976 Revenues \$2.5M , 80% of which come from subscription clients, growing at the rate of 30%/yr, with approximately 200 clients. Will grow considerably greater if Governor Carter elected President, and Dr. Klein becomes Chief Economic Advisor.
 - Kent Economic Associates Inc. (KEA) (for profit)
 - Until November offers only subscription econometric consulting services to industry. Kent Economic Development Institute (non-profit) offers econometric consulting to government and other non-profits. Will go on-line in late 1976 with Compu-Serv offering econometric forecasting models and a large U.S. data base.
 - 1976 Revenues \$.3M , 100% of which comes from subscription clients, growing at the rate of 40%/year.
- Another Potential
 - Quotron Systems, Inc.
 - This is the most totally integrated of the three "electronic-wire services," Quotron, Bunker-Ramo Teleguote, and GTE Ultronic, which offer stock brokers, banks, and other financial intermediaries on-line access to large, updated data bases of securities information.



- They are now offering access to client (i.e., Goldman Sachs and Merrill Lynch) data bases for inquiry, through their on-line network. The next step might be to offer financial analysis/econometric forecasting services via their communications network.
- 1976 Revenues \$18M, 75% of which came from information service clients, growing at the rate of 30%/year.



- *Interactive Computing Companies*

- *Ten were selected on the basis of offering econometric services with data bases.*

- .DRI*
 - .BCS*
 - .Cyphernetics*
 - .Compu-Serv*
 - .IDC*

- Financial/economic services with data bases*

- .NCSS*
 - .GEIS*
 - .SBC*

- Specializing in the financial market place*

- .Rapidata*
 - .RCC*

- *Virtually all Interactive Computing Companies offer at least some type of financial applicational services*

- Timeshare*
 - Comshare*

- *More and more Interactive Computing Companies are entering the financial market place*

- Standard Timesharing Corporation with APL Plus and data base operations.*

- *The Interactive Computing industry is experiencing explosive growth*

- Typical company annual compound growth rates are from 20% to 40%/yr.*

- Average compound annual growth rate is 29%.*

- *Almost all customers are multiple users of each Interactive company*

- The user/customer ratio varies from 2 to 5 depending on market mix.*

- There are fewer financial users/customer (2.5) than for general problem solving (4).*

- *Many customers are multiple users of more than one Interactive Computing service.*



- The percentage of total revenues ascribed to economics varies greatly among companies.

- 5% currently for BCS
- 3% for SBC but rapidly growing
- 40% for RCC
- 80% for DRI

- The Interactive Computing companies are actively looking for both economic and industry data bases, and good aggregate econometric forecasting models.

- Financial and Economic Data Bases

- Data Base Contents

- To get a "feel" for what economic data bases contain a survey was conducted which compared the contents of the data bases offered by the Ten Interactive Computing companies.
- The Time series contained in the Federal Reserve Board, San Francisco, National, industrial and regional data bases were used to illustrate size.
- There is considerable uniformity in the financial, national accounts, and employment series.
- There is great diversity in both the industrial and regional series.

- Leading Data Bases

- It is difficult to access growth factor in data base utilization. The average growth rate of the Interactive Computing companies offering the data bases was used.
- Time did not permit fully exploring the data services offered by Dunn and Bradstreet.

- Data did not arrive in U.S. mail when expected.
- It does not appear that D&B data is used extensively for inclusion in data bases offered by either econometric consulting firms or Interactive Computing companies.

- The data concerning the Kent Economic data base did not arrive in the U.S. mail when expected.

- The data base will be available on-line through Compu-Serv in May 1977.



- A usable estimate of the number of users of Telestat data, or total revenues could not be obtained in the study time frame.
 - Telestat a wholly owned subsidiary of Western Union.
 - Their main line of business appears to be supplying tapes to banks and financial intermediaries.

- The Quotron Data Base is currently offered only in conjunction with Quotron 800 Service.



FINANCIAL AND ECONOMIC DATABASE SURVEY

Sector	Rapidata ¹	Compu Serv ¹	DRI ¹	GE ¹	Merrill Lynch (IDC)	Wharton EFA (BCS)	Chase (Cypher-netics)	Nat'l ¹ CSS	SBC ¹	Remote Computing	FRBSF Series
Financial	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	
# Series	2400 ²	200	400		200	300	150	200	200	200	1560
National Accounts	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	1635
Employment	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	401
Industrial											12236
QFR	no	no	yes	yes	yes	no	yes	no	no	no	4024
Conference Board	yes	yes	no	yes	yes	no	no	yes	yes	no	179
Plant and Equipment	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	182
MSIO	yes	yes	yes	yes	yes	no	yes	yes	yes	no	120
Wharton Indexes	yes	no	no	yes	no	yes	no	yes	yes	no	7
WPI	yes	no	yes	yes	yes	yes	yes	yes	yes	no	243
Wages of Workers	no	no	yes	no	no	no	no	no	no	no	87
Constr. Cost Indexes	no	no	no	no	no	no	no	no	no	no	38
McGraw-Hill Indexes	no	no	yes	no	no	no	no	no	no	no	16
NIP Accounts	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	2223
BEA Gross Product	no	no	yes	no	yes	yes	yes	no	no	no	564
Capital Stock Study	no	no	no	no	no	no	no	no	no	no	328
Industry Profiles	no	no	yes	yes	yes	no	yes	no	no	no	4200
FRB Produc. Indexes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	25
Regional	no	no	yes ³	yes	no	yes ⁴	no	yes	no	no	3289
California	no	no	yes	no	no	yes	no	yes	no	no	
Other Regions	no	no	yes	yes	no	yes	no	no	no	no	

NOTE: Although Rapidata and Compu Serv market the FRBSF Database, and DRI, GE, and Merrill Lynch have purchased tapes of it, the entries under each heading exclude FRBSF series.

¹NBER Database included.

²Including Bank of America Database (BAMACS), which contains 2200 series.

³Security Pacific National Bank California Database.

⁴Boeing Computer Services Regional Database.



- Market Service Requirements

- Econometric Services

- Market Potential

- Fortune 300 industrial or equivalent bank (\$500M assets) or financial intermediary (investment side)
 - Have at least one (1) person, economist, business economist or management science type, fully devoted to forecasting activity
 - investment/cash management
 - market analysis
 - product analysis

- Service Requirements

- need economists, management science type, etc., to market, talk languages and support aggregate analysis, model development, corporate presentations, etc.
- printed report services
- forecasting models—aggregate, national, international, economic, money markets (interest rate) sector analysis
- economic data bases
- data base access and analysis software—MODSIM, XSIM, TSAM, PROBE—for descriptions, see Interactive Computing Company reports.
- computer timesharing system
- DRI the most successful vendor because it supplies all four requirements

- Economic/Financial Services

- Market Potential

- Almost unlimited. A well-defined area is Fortune 500 size with corresponding banks (\$100M assets), S/L's, and other financial intermediaries.
- have comptroller, V.P. finance, V.P. marketing (market research), one or more MBA's and or management science types.



- financial planning
 - market research
 - product analysis
 - asset/liability management
 - investment
- Service Requirements
 - do not need large staff of economists, etc. for consulting. Can substitute. Good applications packages, aggressive marketing, industry analysts.
 - applications packages helpful in some areas, financial MIS particularly helpful
 - economic/financial/industry data bases
 - data base access and analysis software
 - computer timesharing system
 - Market area overlaps the econometric services area and accounts for multiple use clients, and the continued entry of the Interactive Computer vendors. A recent entry is Scientific Timesharing Corporation (STC) with an expanded APL-Plus with security and economic data bases
 - Industry Models. Chase Econometrics has developed an Insurance Industry model for Planning and Research. On the finance side, Insurance clients are not distinguishable from banks and from other financial intermediaries because Economic analysis is primarily used in the investment side of this sector.
 - Input's Market Research Study indicated that industry models if developed would not command high revenue for use. For Fortune 300 Companies the economist/business economist feels he knows both his company and his industry better than anyone else. He subscribes to Chase, DRI, Cyphernetics, IDC, or Rapidata because of: (1) data bases which are broad in scope, accurate, and timely; (2) and data access and data analysis (modeling) software.



- Economic/Financial Data Bases

- The economics of the coupling of communication systems with computer timesharing systems has shifted the economics of data entry and maintenance whereby many management science and econometric users more and more frequently find it cost effective to quickly access large data bases for which the data has been carefully entered, checked, and entered in a timely manner.
- There are a number of data base vendors who have developed data bases for their own use and find it economically attractive to lease for a fee/subscriber to one or more timesharing vendors. The vendors usually give the data base manager both the fee and special consideration for data entry and use of the vendor's timesharing system.
- Input's Market Research Studies indicate that there are selected timesharing vendors looking for data bases to broaden their market area.
- Input's Market Research Studies indicate that data base vendors who have their own on-line systems greatly enhance their revenues. Accessibility to the data base "pulls through" a significant amount of additional revenue. Data base related operations will account for as much as 14% of all Remote Computing Revenue by 1981.

- Data Delivery

- Input Market Research Study indicates that
 - of the Fortune 300 Companies clients using econometric consulting services
 - in 1973 only 20% on-line
 - in 1976 over 70% on-line
 - same trend holds true for banks and financial intermediaries



- one factor is better quality terminals including graphics and plotting capability
- another is the combination of interactive timesharing and remote batch services offered by timesharing vendors
- Input Market Research Study indicates a general shift to on-line report preparation throughout all industrial and financial sectors
 - word processing
 - management information systems
 - data base management systems
 - time constraint on data



- Market Forecast Thru 1981

- Forecast of Econometric Consulting Services

- 1976 Revenues estimated at \$33 million
- Average annual compound growth rate of Big Three estimated at 25%/yr.
- 1981 Revenues estimated at \$86 million or approximately 50% of total financial/economic market.
- The New Comers will comprise less than 10% of the market.
- Approximately 20% of Revenue will come from subscription clients indicating a continued trend to on-line reports.
- Banks, and financial intermediaries comprise the major market area, with financial operations of industrial corporations approximately 50% of the size of the financial companies.
- It is difficult to separate the Insurance Industry from other financial intermediaries.
- Another allied market place (1976 Revenues of \$80 million) represents potential for further electronic integration.

- There are three firms competing for a limited market area of on-line inquiry of financial data.

- Quotron with an increasing 30% of market at 24 million.
- GTE Ultronics with a decreasing 30% of market at 24 million.
- Bunker-Ramo with a decreasing 40% of market at \$30 million.

- Forecast of Financial/Economic Interactive Computing Companies

-The market place is experiencing rapid growth

- .even through recession
- .in spite of trend of larger users going "in-house".
- .individual average annual compound growth rates vary from 20% to 40%.
- .the industry average rate is estimated at 29%.

-Input Market Analysis study indicates that approximately 11% of all interactive computing is related to data base operations.

- .this study concerns primarily financial/economic data base companies.
- .1976 Revenue were \$489 million, 11% of which corresponds to Conference Board estimate of \$40-45 million.



- Estimated 1981 Revenue of \$1.9 billion is within target area (3.3 billion) estimated for entire RCS market, by a separate Input Market analysis.
- Estimated 1981 Revenue ascribed to financial/econometric interactive computing of \$168 million close to Conference Board projection of \$140-160 million.
- Revenue allocations between market sectors are based on customer mix as determined from data base subscriptions.

.Finance	79.5M
.Insurance	14.5M
.Manufacturing	40.0M
.Government	28.0M
.Total	168.0M

● Forecast of Financial/Economic Data Base Utilization

- The Revenues obtained from leasing data bases to Interactive Computing Companies represent approximately 10% of the market.

.1976 \$ 5. 7M
 .1981 \$19.31M

- Interactive Computing Companies appear to benefit more than data base vendor because of "pull through" revenue associated with data base utilization.
- The Revenue allocation between industries was not done on a per data base basis. An aggregate distribution was made for the four market sectors based on the allocations done for the Interactive Computing Companies.

.Finance	\$9.7M
.Insurance	\$1.8M
.Marketing	\$5.0M
.Government	\$2.8M

- The level of revenue for offering just data base economic data indicate that the data base vendors are determining data base preparation costs on an incremental bases.

.One or more revenues are generated from other prime uses of the data.

- Appropriate uses and data base revenue data from Dunn & Bradstreet could not be obtained for inclusion in the study - However it appears that D&B do not provide data to the remote Computing industry.



- Appropriate user and data base revenue cost could not be obtained for the Telestat data base. The data base is used by a number of RCS vendors and many financial institutions.
- The Quotron Data Base cost could not be seperated from the Quotron 800 financial service costs.



The Financial and Econometric Services Companies

Name	1976 Revenues*	Growth Factor/yr	1981 Revenues	Clients	Consulting Revenue 1981	Interactive Comp Rev 1981	Revenue Finance 1981	Revenue Insurance 1981	Revenue Manuf. 1981	Revenue Govmt 1981	Joint Ventures
Chase Econometrics	\$ 8.5	20%	\$19.6	700	\$ 3.9	\$15.7	\$13.0	\$ 2.9	\$ 2.9	\$.8	IDC/ADP Cyphernetics
Data Resources Inc.	\$15.6	25%	\$44.6	400	\$ 3.1	\$41.5	\$30.0	\$ 1.5	\$10.5	\$2.6	None
Merrill Lynch Economics	\$ 6.5	25%	\$19.0	280	\$ 9.5	\$ 9.5	\$ 7.1	\$ 2.4	\$ 9.5	0	IDC
Wharton Economic Associates Inc	\$ 2.5	30%	\$ 8.8	200	\$ 7.0	\$ 1.8	\$ 2.6	\$ 1.0	\$ 2.6	\$2.6	Boeing Computer Services
Kent Economic Associates Inc	\$.3	40%	\$ 2.3	20	\$ 1.8	\$.5	\$ 1.1	0	\$ 1.2	0	Compu-Share Inc.
Totals	\$33.3		\$94.3	1600	\$25.3	\$69.0	\$53.8	\$ 7.8	\$26.7	\$6.0	
Quotron Systems Inc.	\$24.0	30%	\$86.0	600	\$22.0	\$64.0	\$62.0	\$ 2.0	0	0	None

*All dollar estimates are in millions.

Figure 1



The Interactive Computing Companies

Name	1976 Revenues*	Growth Factor	Est 1981 Revenues	Est Users	User/Client Factor	Economics Revenue 1981	Revenue Finance 1981	Revenue Insurance 1981	Revenue Manuf. 1981	Revenue Govt 1981	Joint Ventures
ADP Cyphernetics	\$ 21	30%	\$ 75.4	6500	4	\$ 10	6	1	2	1	Chase Econometrics
Boeing Computer Svc.	\$ 60	20%	138.	2500	3	5	1.5	.5	2	1	Wharton WEA, Inc.
Compu-Serv Inc.	\$ 10	30%	35.9	2800	4	5	3	1	1	0	Kent Economic Assoc. Inc
DRI	\$ 16	25%	45.7	1500	3.5	36	24	1	8	3	SPNS
GEIS	\$125	20%	387.5	5000	2	25	8	2	7	8	NONE
IDC	\$ 15.6	30%	57.	2000	3	18	9	3	4	2	Chase Merrill Lynch
National CSS, Inc.	\$ 38	25%	108.7	8500	5	13	5	2	5	1	Economic Research Assoc. Inc
Rapidata	\$ 18	25%	51.4	6000	3	19	9	1	5	4	ERMACS FRBSF
RCC	\$ 9	30%	32.3	600	2	12	8	1	2	1	Merlin
SBC	\$175	40%	1,027.	15,000	5	25	6	2	10	7	NONE
Totals	488.6		1,935			\$158	79.5	14.5	46	28	

*All dollar figures in millions.

Figure 2



The Data Bases

Name	Series Size	Users Total	Est 1976 Revenue*	Use Growth Factor	Est 1981 Revenues	Revenue Finance 1981	Revenue Insurance 1981	Revenue Manuf. 1981	Revenue Govt. 1981	Joint Ventures
BAMACS	2,200	55	\$.33							Rapidata
Chase	67,000	320	\$1.44							IDC Cyphermatic
DRI	50,000	300	\$1.2							None
D&B										None
FRBSF	3,600	50	\$.03							Rapidata Compu-Share
Kent	15,000	20	.02							Compu-share
Merlin	13,200	600	\$.36							RCC
Merrill Lynch	8,000	80	\$.56							IDC
NBER	2,200	240	\$.23							SDC, Inc. Chase, DRI, Rapidata etc
Quotron	12,000	600								None
SPNB	15,000	50	\$.15							DRI
Telestat (Rapid quote)	12,200									IDC, Rapidata
Value Line	3,000	200	\$1.2							Rapidata DRI, IDC
Wharton	14,700	40	\$.13							BCS
Totals			\$5.65	30%	\$19.3M	9.7	1.8	5.0	2.8	

*All figures in millions.

Figure 3

