An Analysis of the New York Insurance Exchange's Economic Impact

> Prepared by The Diebold Group, Inc. April 1981

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I. Introduction

A. Summary of Findings and Conclusions

At the end of its first calendar year of operation, March 31, 1981, direct employment associated with the New York Insurance Exchange's operations was 400, personal tax revenue was \$2 million, and real estate revenue was \$2 million. Assuming proposed legislation permitting the New York Insurance Exchange to place excess and surplus lines direct insurance is enacted by mid-1981, The Diebold Group forecasts that the State of New York will recognize the following economic benefits (see Exhibit 1): additional employment totaling 2,200 in 1983, 6,900 in 1986 and 20,200 in 1991; annual personal tax revenue will increase from \$8 million in 1983 to \$184 million in 1991; and annual real estate revenue will increase from \$9 million in 1983 to \$249 million in 1991.

B. Objectives and Methodology

The objective of this study is to assess the economic impact of the New York Insurance Exchange (NYIE) on the State of New York, assuming the mid-1981 enactment of pending legislation permitting the NYIE to place direct excess and surplus insurance on domestic risks outside the State of New York. For purposes of this analysis, economic impact is measured in terms of three criteria: incremental New York employment, city and state tax revenue (i.e., personal income, property and sales taxes, but excluding corporate taxes) and New York office space rental revenue related to NYIE activities. Economic benefits are described for the years 1981, 1986 and 1991.

Economic benefits were determined by establishing relationships between forecasted NYIE business volumes and employment; additional relationships between employment, tax and real estate revenue were also established. These relationships and other key conclusions were derived from field interviews with insurance underwriters, brokers, and NYIE personnel. Recognized secondary sources were used to quantify the current insurance market.

C. Legislative History

The New York State Legislature enacted 1978 legislation creating the New York Insurance Exchange. This facility was granted the right to place for underwriting:

- 1. Reinsurance of all kinds of insurance.
- 2. Insurance on risks located in the State of New York, provided such risks have been rejected by the Free Trade Zone.

SUMMARY OF NYIE RELATED **ECONOMIC BENEFITS**

Economic Benefit	1981*	1983	1986	1991
Incremental Employment, in Thousands • Direct Employment • Indirect Employment Total	0.4 	1.7	5.2 1.7 6.9	15.4 4.7 20.1
Incremental Personal Tax Revenue,** in Millions of Dollars	\$2	\$8	\$32	\$184
Increment Real Estate Revenue,** in Millions of Dollars	\$2	\$9	\$42	\$249

^{*}Total employment or revenue for calendar year ending March 31, 1981.

**Revenues derived from direct employment only.

 Direct insurance of all kinds on risks located entirely outside the United States.

The NYIE began operations in April 1980. Its inability to place direct insurance on domestic risks has slowed its growth; therefore, new legislation has been introduced before the New York State Legislature permitting direct insurance risks outside New York State, and qualifying for excess and surplus lines placement, to be underwritten through the NYIE.

Illinois and Florida are in the process of establishing insurance exchanges. Unlike the New York legislation now in effect, the Illinois law will not require that risks be rejected by free trade zone insurers before they are placed on the exchange. The Illinois law allows an exchange to place domestic risks with premiums exceeding \$50,000, or any risk that cannot be placed with an Illinois-licensed company. Currently, the minimum risk which can be placed on the NYIE is \$100,000.

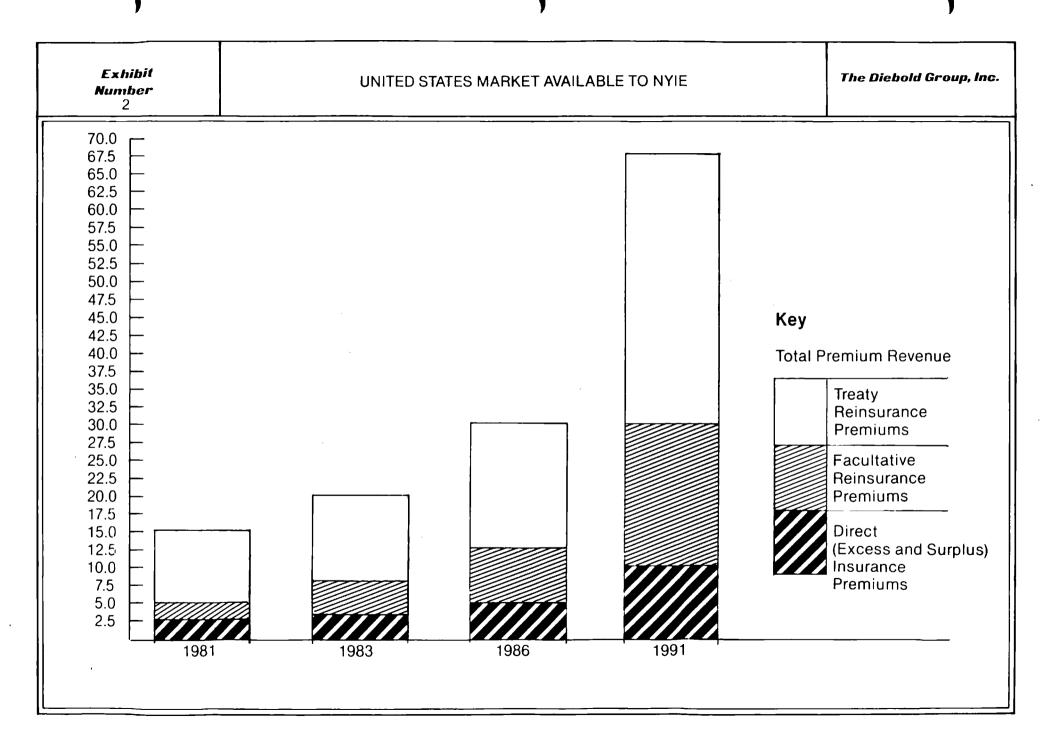
D. Insurance Industry Overview

1. Market Description

Assuming the pending legislation described above is enacted, the New York Insurance Exchange's total available market will consist of three segments: facultative reinsurance, treaty reinsurance, and direct insurance (excess and surplus lines only). The NYIE is currently permitted to place international direct insurance. However, the insurance industry believes the NYIE must be established in the United States market before it can compete in the international market; thus, forecasts of available market (to the NYIE) exclude the international market. The NYIE's 1981 available market is approximately \$15.4 billion of premium revenue. During the 1970's the United States insurance industry grew approximately 14 percent annually. For purposes of this study, the available market is assumed to annually grow 14.5 percent between 1981 and 1983, and 16.5 percent between 1983 and 1991. As Exhibit 2 indicates, the available market will represent premium revenue of \$20.2* billion in 1983, \$31.2 billion in 1986 and \$68.3 billion in 1991.

The insurance industry's growth has traditionally moved in three to four year cycles. The industry is currently at the low end of its cycle. A turnaround is expected by 1983, increasing premium volume.

^{*} All market forecasts are current year dollars. Unless otherwise indicated, 10 percent annual inflation is assumed and reflected in market estimates.



2. The New York Insurance Exchange and Lloyd's

Both the New York Insurance Exchange and Lloyd's are associations of insurance brokers and underwriting syndicates. Brokers represent insurance buyers seeking the best price for their client's risk from the underwriting syndicates. A syndicate consists of an underwriting manager(s) and, generally, several silent partners. Insurance companies are often managing partners.

Approximately half of the \$4.4 billion premium revenue placed by Lloyd's is derived from United States risks. United States brokers place nearly 60 percent of their business through Lloyd's, though they must share commissions with Lloyd's brokers. Approximately half of the \$2 billion of United States premiums flowing to Lloyd's is surplus insurance (i.e., the direct insurance lines which pending New York legislation will allow the NYIE to write for risks outside the State of New York). About one-third of the United States excess and surplus lines market is placed through Lloyd's.

The NYIE provides a United States central insurance market which benefits brokers, underwriters and the public. Brokers using the NYIE can save time and money by shopping under one roof for varied underwriting expertise and the lowest premium without sharing commissions with Lloyd's broker intermediaries. Underwriters using an insurance exchange can efficiently spread risk, share expertise, and reduce policy processing and other administrative costs. The public benefits through lower insurance premiums.

II. Findings and Conclusions

Exhibit 1 (see page 2) summarizes and the following pages detail and explain The Diebold Group's projections of 1983, 1986 and 1991 State of New York economic benefits derived from New York Insurance Exchange operations, assuming the pending legislation permitting the Exchange to place excess and surplus lines direct insurance on risks outside the State of New York is enacted by mid-1981. Three projections of NYIE penetration into the total available market and resulting economic benefit were made. The most likely scenario is described in this section; optimistic and pessimistic available market size, NYIE market penetration, and direct employment forecasts are presented in the Appendix.

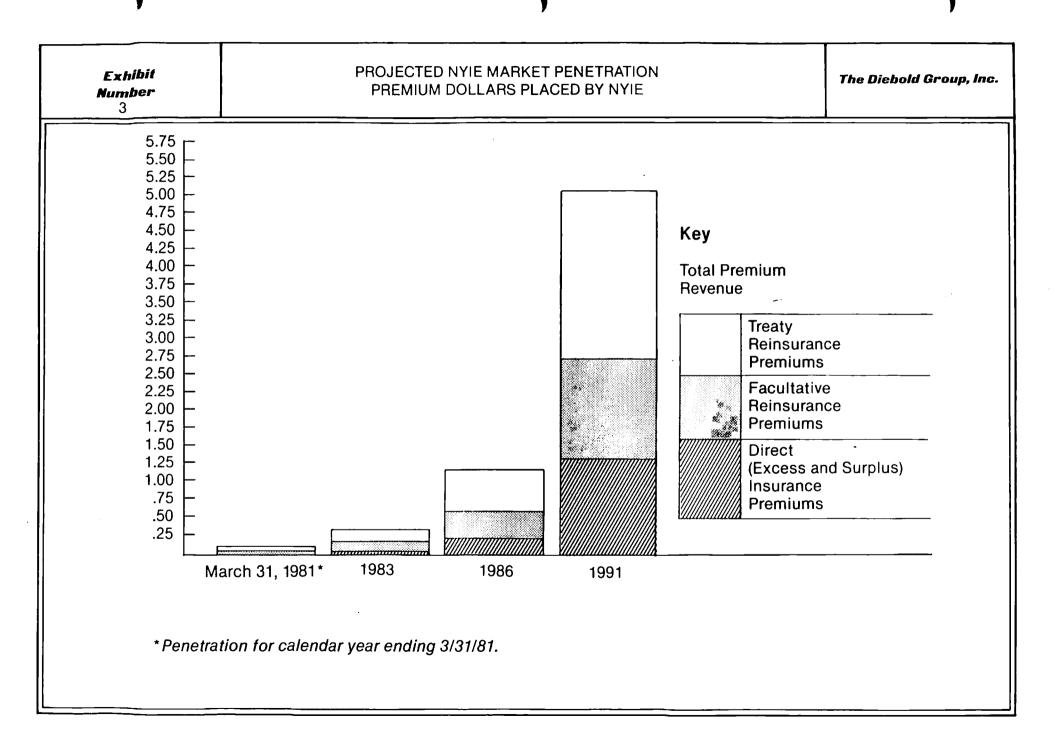
A. New York Insurance Exchange Market Penetration

Assuming the proposed legislation permitting the NYIE to place excess and surplus lines direct insurance is enacted by mid-1981, The Diebold Group expects the NYIE to place, in 1981, 0.5 percent of the available premium market (defined above), or premiums worth \$71 million. By 1986, we believe the NYIE will capture 3.7 percent of the available market, or premiums totaling \$1.2 billion. The New York Insurance Exchange's 1991 market penetration and premium revenue will be approximately 7.4 percent and \$5.0 billion. Exhibit 3 details The Diebold Group's forecast of premium revenue placed through the NYIE in 1983, 1986 and 1991.

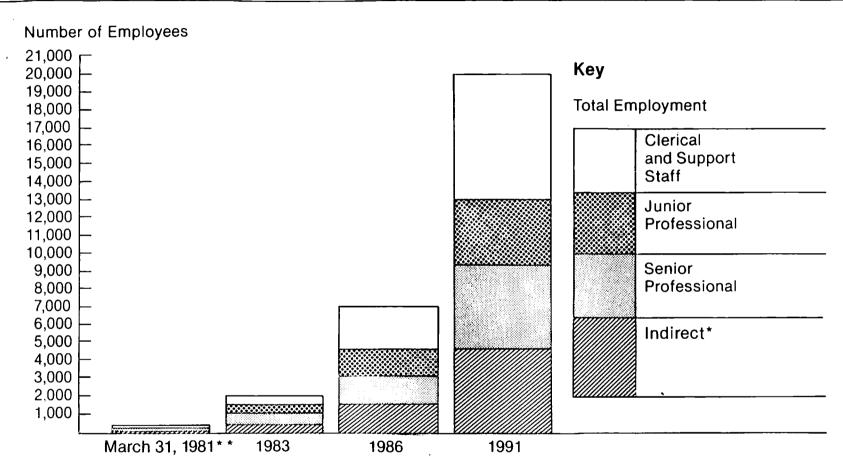
B. Employment Benefits

If the NYIE prospers, three groups of employers will increase their payrolls: insurance brokers, underwriters, and the NYIE itself. We have analyzed employment by three skill levels: senior professional, junior professional, and clerical and support staff. Senior professionals include titles such as senior broker and underwriter, president, vice-president and chief accountant; junior professionals include junior brokers and underwriters, accountants and middle managers; and clerical and support staff include bookkeepers, secretaries and receptionists.

After 12 months of operations, on March 31, 1981, 400 new jobs existed because of the NYIE's operations. Assuming the proposed legislation permitting the NYIE to place excess and surplus lines direct insurance is enacted by mid-1981, The Diebold Group forecasts incremental employment necessary to place insurance on the NYIE will be approximately 2,200 in 1983, 6,900 in 1986 and 20,200 in 1991. Clerical and support staff will compose approximately 35 percent of the increased employment. Exhibits 4 and 5 present our employment forecasts for 1983, 1986, and 1991 by employer, type of insurance and position.



FORECASTED TOTAL EMPLOYMENT DERIVED FROM NYIE OPERATIONS BY TYPE OF POSITION



^{*}New York State employment necessary to provide services supporting NYIE operations, and purchased by the NYIE or its members.

^{**}Employment supported by NYIE activities for calendar year ending 3/31/81.

FORECASTED EMPLOYMENT DERIVED FROM NYIE OPERATIONS BY TYPE OF INSURANCE AND POSITION

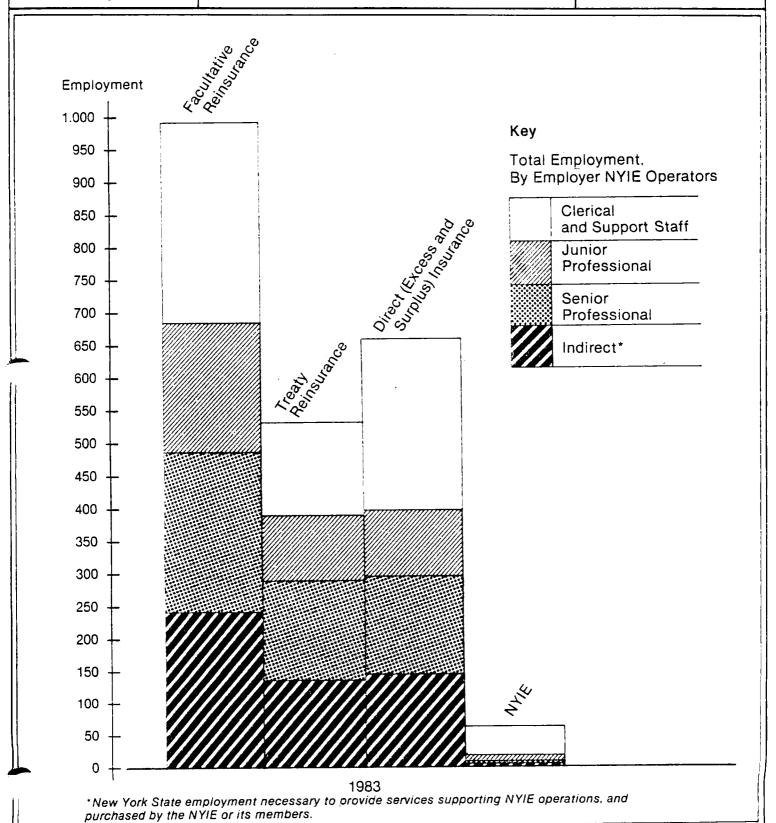
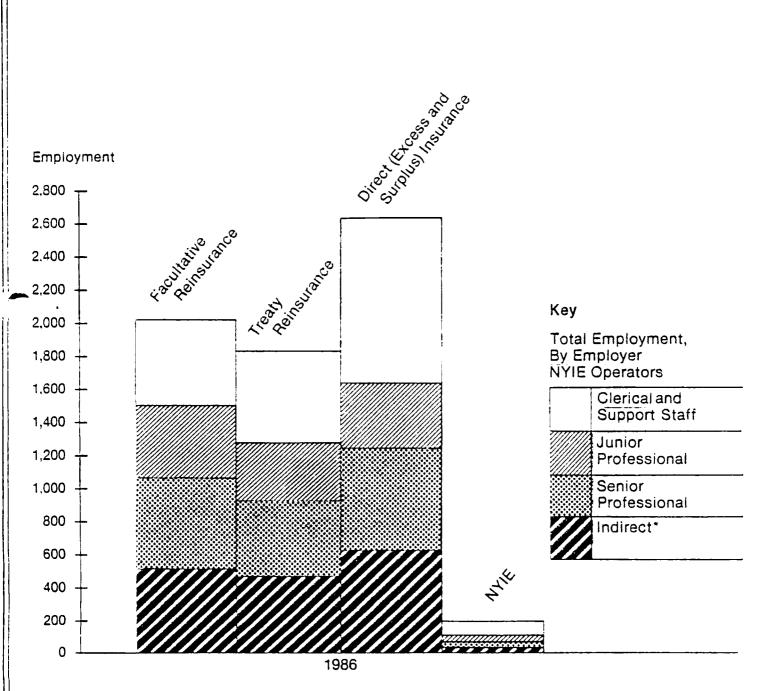


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5 (continued)

FORECASTED EMPLOYMENT DERIVED FROM NYIE OPERATIONS BY TYPE OF INSURANCE AND POSITION

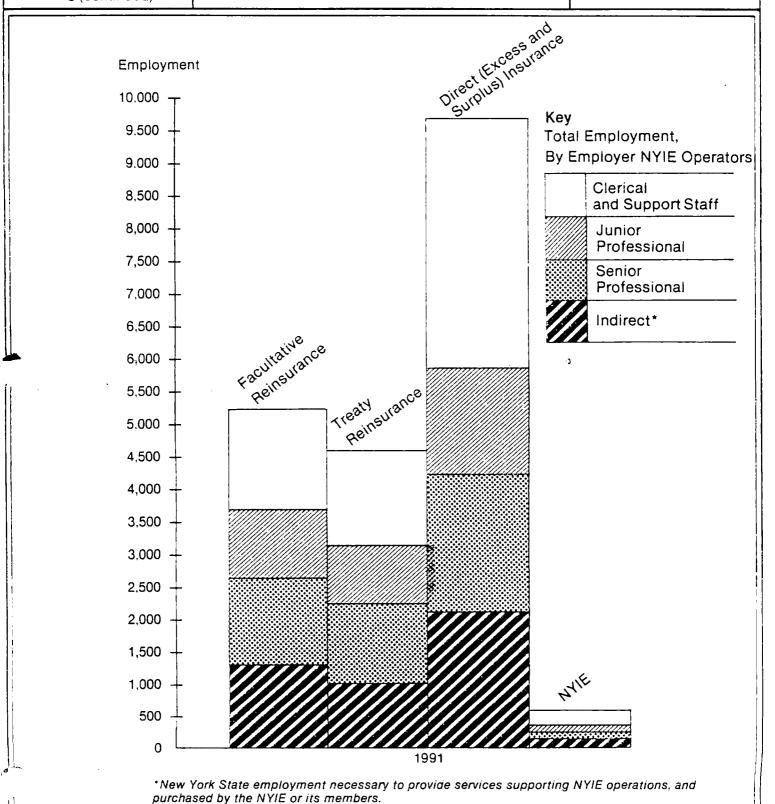
The Diebold Group, Inc.



*New York State employment necessary to provide services supporting NYIE operations, and purchased by the NYIE or its members.

Exhibit
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5 (continued)

FORECASTED EMPLOYMENT DERIVED FROM NYIE OPERATIONS BY TYPE OF INSURANCE AND POSITION



The staff necessary to broker and underwrite direct insurance is considerably larger than the staff required to broker and underwrite reinsurance. Direct insurance requires more administration per transaction than reinsurance, and the average transaction is smaller. Calculations based on data presented in Exhibit 5 indicate 40 percent of 1986 broker and underwriter employment will be associated with direct insurance; 60 percent will be associated with reinsurance. In 1991, 50 percent of broker and underwriter employment will be associated with direct insurance; 50 percent will be associated with reinsurance. Thus, if the proposed amendment permitting the NYIE to place excess and surplus lines direct insurance is not enacted, the employment increases described above and quantified in Exhibit 2 will be at least 40 percent and 50 percent smaller in 1986 and 1991 respectively.

C. Tax Benefits

Assuming combined average personal tax rates of 15 percent, 12 percent, and 11 percent for senior professionals, junior professionals, and clerical and support staff, the estimated 1983, 1986 and 1991 incremental New York City and State personal tax revenue derived from NYIE direct employment will be approximately \$8 million, \$32 million and \$184 million respectively. For the 12 months ending March 31, 1981, personal city and state taxes derived from NYIE direct employment were approximately \$2 million.

D. Real Estate Benefits

Approximately 270 square feet of office space is required per insurance industry employee. Assuming the employment growth described above, incremental New York office space occupied to support the NYIE's operations will be approximately 450,000 square feet in 1983, 1.4 million square feet in 1986 and 4.1 million square feet in 1991. Existing leases for office space in the district adjoining the NYIE currently average \$15 per square foot. For the 12 months ending March 31, 1981, New York real estate revenue derived directly from the NYIE's operations was \$2 million. Assuming rents increase 15 percent annually through 1991, incremental New York rental revenue derived directly from the Exchange's operations will be approximately \$9 million in 1983, \$42 million in 1986 and \$249 million in 1991.

E. Satellite Market Benefits

If the New York Insurance Exchange prospers, additional economic benefits (which, though substantial, we have not quantified) will result from the development of a satellite (i.e., off exchange) insurance market. In London, many insurance companies are headquartered or have offices in the neighborhood near Lloyd's, but place relatively little business through Lloyd's. The premium volume of this satellite market is approximately \$4.5 billion. The NYIE can also attract a satellite market. One insurance company has already transferred its entire reinsurance operation to New York City, and others are considering a similar move.

III. Assumptions and Forecasting Procedures

A. Available Market and New York Insurance Exchange Penetration

The New York Insurance Exchange's available market, projected growth and NYIE market penetration were forecasted by The Diebold Group based upon interviews with insurance industry experts and reference to generally accepted insurance industry statistics and forecasts. Exhibits 6 and 7 respectively present assumptions of available insurance market growth and the NYIE percentage market penetration.

Three scenarios for NYIE market penetration and resulting economic benefit were developed. Optimistic and pessimistic figures (see Appendix) are based on NYIE market penetration deviating 25 percent from the most likely scenario.

B. Employment

Employment was forecasted by relating NYIE premium volume to number and type of employees necessary to broker, underwrite and administratively support the business. Two sets of key ratios were used: 1) business volume to senior employees required (e.g., senior underwriters or brokers); 2) employment (by level) required per senior employee. These ratios, which are presented in Exhibits 8, 9 and 10, were derived for treaty reinsurance, facultative reinsurance, and excess and surplus direct insurance lines. All premium volumes are expressed in current dollars, with an implicit 10 percent inflation rate. The ratios were developed by The Diebold Group, and were verified through multiple interviews with insurance industry experts.

In the insurance industry, the closer a type of insurance is to the insured, the larger the staff necessary to broker, underwrite and administer the business. Thus, the direct insurance business requires more staff per broker or per underwriter than reinsurance because direct insurance risks are generally smaller. In addition, direct insurance involves several functions which are simpler or nonexistent in the reinsurance business (e.g., engineering surveys). Direct insurance consequently requires more clerical support per dollar volume, and its complexity relative to reinsurance results in lower premium volume per direct insurance underwriter and broker. Treaty reinsurance employment requirements tend to be slightly less than facultative reinsurance because the former generally involves larger premium value per transaction.

AVERAGE ANNUAL PERCENT GROWTH OF INSURANCE MARKET AVAILABLE TO NYIE

	1981-1983	1984-1991
Treaty Reinsurance	12.5%	15.5%
Facultative Reinsurance	26.5%	22.5%
Excess and Surplus Direct Insurance	11.0%	12.0%
Total Available Market	14.5%	16.5%

PROJECTED NYIE MARKET PENETRATION NYIE PERCENT OF AVAILABLE MARKET*

	1981	1983	1986	1991
Treaty Reinsurance	0.4%	1%	3%	6%
Facultative Reinsurance	1.3%	3%	5%	7%
Excess and Surplus Direct Insurance	* *	1%	4%	13%
NYIE Share of Total Available Market	0.5%	1.4%	3.7%	7.4%

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Negligible

BUSINESS VOLUME TO EMPLOYMENT RELATIONSHIPS (MILLIONS OF DOLLARS)

	1981	1983	1986	1991
Premium \$/Senior Underwriter				
Facultative Reinsurance	1.0	1.8	2.4	3.9
Treaty Reinsurance	2.0	3.0	4.0	6.4
 Direct (Excess and Surplus) Insurance 	.5	1.0	1.3	2.1
Premium \$/Senior Broker				
Facultative Reinsurance	.8	1.2	1.6	2.6
Treaty Reinsurance	1.6	2.4	3.2	5.2
 Direct (Excess and Surplus) Insurance 	.3	.9	1.2	1.9
Premium \$/NYIE Employee*	2.2	5.3	7.0	11.3

^{*}Average figure assuming the projected percentage mix of facultative reinsurance, treaty reinsurance and direct (excess and surplus) insurance placed through NYIE.

EMPLOYMENT RELATIONSHIPS SENIOR UNDERWRITER AND BROKER TO OTHER EMPLOYEES

Skill Level		19	81	1983-1991		
		Employment	Employment	Employment	Employment	
		Senior	Senior	Senior	Senior	
		Underwriter	Broker	Underwriter	Broker	
Senior Professionals	Facultative Reinsurance	.5	.6	.4	.5	
	Treaty Reinsurance	.5	.6	.4 .5	.5	
	Direct (Excess and Surplus) Insurance	.6	1.0	.5	.8	
Junior Professionals	Facultative Reinsurance	1.0	1.3	1.0	1.3	
	Treaty Reinsurance	1.0	1.2	1.0	1.2	
	Direct (Excess and Surplus) Insurance	1.3	.8	1.3	.8	
Clerical/ Support	Facultative Reinsurance	1.3	1.8	1.5	2.0	
	Treaty Reinsurance	1.2	1.8	1.4	2.0	
	Direct (Excess and Surplus) Insurance	1.8	3.2	2.1	3.7	
Total	Facultative Reinsurance	2.8	3.7	2.9	3.8	
	Treaty Reinsurance	2.7	3.6	2.8	3.7	
	Direct (Excess and Surplus) Insurance	3.7	5.0	3.9	5.3	

Exhibit
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10

COMPOSITION OF NYIE EMPLOYMENT

Skill Level	1981	1983-1991		
Senior Professional	20%	15%		
Junior Professional	30%	25%		
Clerical/Support	50%	60%		

Indirect employment is defined as State of New York employment necessary to supply services related to NYIE operations, and purchased by the exchange or its members, such as accounting, legal, travel and entertainment services. Indirect employment was estimated by calculating an index relating expenditures for supporting services to senior professional employment. Based on field interviews and financial documents, we estimated 1980 and forecasted 1981 brokers, underwriters and NYIE expenditures for supporting services. We assumed seventy-five percent of these expenditures were indirect service employees' salaries, and the average indirect service employee earns \$20,000 per year. We calculated 1980 and 1981 indirect employment by dividing 75 percent of estimated dollar expenditures by the \$20,000 average compensation. The 1980 and 1981 indices of total professional employment to indirect employment were approximately 0.8. When calculating 1983, 1986 and 1991 indirect employment, we increased the index to 1.0 for two reasons: 1) the NYIE and its membership are still in a start-up mode, and consequently have a disproportionately large number of senior professionals; 2) excess and surplus direct insurance, which we assume the NYIE will be permitted to place by mid-1981, is supported by more indirect employment than reinsurance.

C. Tax and Real Estate

Incremental city and state taxes (personal income, sales and property taxes, but excluding corporate taxes) derived from direct employment were calculated as follows: by skill level, direct employment was multiplied by average salary, and the product was multiplied by the tax rate. Through interviews, we determined that average 1981 senior professional, junior professional, and clerical and support staff compensation respectively averaged \$50,000, \$24,000 and \$15,000. Salaries were assumed to increase 10 percent annually. We assumed combined average personal tax (income, sales and personal property) tax rates of 15 percent, 12 percent, and 11 percent for senior professionals, junior professionals, and clerical and support staff respectively.

Interviews with insurance industry brokers indicated that approximately 270 square feet of office space is required per insurance industry employee. Existing leases for office space near the NYIE currently average \$15 per square foot. We assumed rent will increase 15 percent annually through 1991.

IV. Appendix

Exhibit Number 11

AVAILABLE MARKET AND NYIE MARKET PENETRATION-MOST LIKELY FORECAST*(MILLIONS OF DOLLARS)

	1981	1983	1986	1991
Total Available Market	15,400	20,200	31,200	68,300
 Treaty Reinsurance 	9,500	12,000	18,000	38,000
Facultative Reinsurance	2,500	4,000	7,300	20,000
 Direct (Excess and Surplus) Insurance 	3,400	4,200	5,900	10,300
NYIE \$ Premium Volume	75	280	1,140	5,020
Treaty Reinsurance	45	120	540	2,280
Facultative Reinsurance	30	120	365	1,400
 Direct (Excess and Surplus) Insurance 	**	40	235	1,340

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Negligible

AVAILABLE MARKET AND NYIE MARKET PENETRATION-PESSIMISTIC FORECAST*(MILLIONS OF DOLLARS)

	1981	1983	1986	1991
Total Available Market	15,400	20,200	31,200	68,300
Treaty Reinsurance	9,500	12,000	18,000	38,000
Facultative Reinsurance	2,500	4,000	7,300	20,000
 Direct (Excess and Surplus) Insurance 	3,400	4,200	5,900	10,300
NYIE \$ Premium Volume	60	210	855	3,765
Treaty Reinsurance	40	90	405	1,710
Facultative Reinsurance	20	30	275	1,050
Direct (Excess and Surplus) Insurance	**	30	175	1,005

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Negligible

AVAILABLE MARKET AND NYIE MARKET PENETRATION-OPTIMISTIC FORECAST*(MILLIONS OF DOLLARS)

	1981	1983	1986	1991
Total Available Market	15,400	20,200	31,200	68,300
Treaty Reinsurance	9,500	12,000	18,000	38,000
Facultative Reinsurance	2,500	4,000	7,300	20,000
 Direct (Excess and Surplus) Insurance 	3,400	4,200	5,900	10,300
NYIE \$ Premium Volume	90	350	1,425	6,275
Treaty Reinsurance	55	150	675	2,850
Facultative Reinsurance	35	150	455	1,750
Direct (Excess and Surplus) Insurance	**	50	295	1,675

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Negligible

DIRECT INCREMENTAL EMPLOYMENT* -MOST LIKELY FORECAST**-

NYIE					Under	writer			Broker			
Skill Level:	1981	1983	1986	1991	1981	1983	1986	1991	1981	1983	1986	1991
Senior Professional	5	5	25	65	70	200	675	1,950	105	315	951	2,740
Junior Professional	10	15	40	110	45	160	525	1,540	75	230	658	1,790
Clerical/Support Staff	20	30	100	265	65	245	735	2,365	110	475	1,521	4,570
Total	35	50	165	440	180	625	1,935	5,855	290	1,020	3,130	9,100

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Rounded up or down to nearest five.

DIRECT INCREMENTAL EMPLOYMENT* -PESSIMISTIC FORECAST**-

	NYIE				Underwriter				Broker			
Skill Level:	1981	1983	1986	1991	1981	1983	1986	1991	1981	1983	1986	1991
Senior Professional	5	5	15	50	60	155	505	1,450	100	230	715	2,030
Junior Professional	10	10	30	80	40	120	340	1,145	70	170	495	1,340
Clerical/Support Staff	15	25	80	200	60	180	555	1,760	100	355	1,140	3,420
Total	30	40	125	330	160	455	1,450	4,355	270	755	2,350	6,810

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Rounded up or down to nearest five.

DIRECT INCREMENTAL EMPLOYMENT* -OPTIMISTIC FORECAST**-

	NYIE				Underwriter				Broker				
Skill Level:	1981	1983	1986	1991	1981	1983	1986	1991	1981	1983	1986	1991	
Senior Professional	10	10	30	80	80	260	850	2,430	110	385	1,190	3,400	
Junior Professional	10	20	50	140	50	200	660	1,920	85	285	825	2,220	
Clerical/Support Staff	20	40	130	335	70	300	1,005	2,955	120	595	1,900	5,685	
Total	40	70	210	555	200	760	2,515	7,305	315	1,265	3,915	11,305	

^{*}Assuming pending legislation permitting the NYIE to write excess and surplus direct insurance outside the State of New York is enacted, mid-1981.

^{**}Rounded up or down to nearest five.