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FINANCING THE AIR TRANSPORTATION INDUSTRY

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Gentlemen: It is a pleasure to be here today to speak in such a lovely location and on a subject close to my heart. It is a particular pleasure to be on the same program with Dr. George James with whom I have had a warm association for many years. I say this in spite of the fact that Dr. James has just made some capital requirement forecasts substantially higher than I had anticipated. The $20 billion capital requirement that George is forecasting for the second half of the 1970's is final confirmation that the aerospace manufacturers have infiltrated the ATA.

I know you've spent a lot of time this week, and some of last week, on the basic characteristics of the industry. I want to touch on them briefly today to show how they affect the financing requirements and patterns of the industry. (Chart I) First of all, we are highly susceptible to the business cycle. This means that we have to choose our financial timing carefully in order to get the best possible interest rates available. There are in fact times when we cannot finance at all, when things are at the bottom. It also means that our investors, our lenders, tend to request higher interest rates or expect higher rates of return on their equity from us than they do from more stable industries, such as other utility industries whose earnings tend to be reasonably stable percentages.

Second, we are a service industry; therefore we cannot store our product. This fact has a fairly major effect on the amount of equipment we buy and therefore the amount of capital investment that we make.

Third, we are closely government regulated. We are regulated with regard to the routes we can fly and the rates we may charge. Nonetheless we are highly competitive and the combination of this fact and our close regulation has tended in the past to drive the industry periodically into an over-capacity posture. This puts heavy burdens on the financial officers, and the financial resources of the airlines.

Fifth, we are a high growth industry, so that, if we were normal in all other respects, we would have a fairly high rate of new equipment acquisitions. We are not normal in all other respects, however. We have a rapid technological cycle. Since the airlines first became significant entities in transportation in the early 1930's, there has been a major technological revolution in the equipment we operate on the average of about every seven years. Therefore, we are capital hungry and that is what I am going to be talking about to a very large degree today. Finally, seasonality enters into our economic picture in that we must equip our fleets to satisfy a reasonable percentage of peak demand. In the case of American Airlines, our seasonal peak falls in the summertime on the east-west routes. New York-Los Angeles traffic, for example, may be 50% higher in the month of August than it is on an average day in the month of February.

The "Four Seasons" of Airline Financing

Let me turn now to a historical review of airline financing because I think some historical perspective is necessary to understand how we got to where we are today and how we can, hopefully, finance the requirements of the future. Season I in airline financing I will date as including all years up until the end of 1954. This date was chosen because this was when the manufacturers

first approached the airlines to purchase the new jets, the 707's, DC-8's. Now, let's look at the balance sheet just before that happened. (Chart II) We had a fairly comfortable working capital level relative to about half a billion in operating property. Other assets were insignificant and debt was a minor factor, $214 million or 27% of our total capitalization. The bulk of our capitalization, 71%, was stockholders' equity. Outside of a few really minor debt agreements including some RFC financing back in the 1930's, a small amount in the 1940's, and some insignificant insurance company financing in the 1950's, we had financed our growth and our new equipment throughout this time period by stockholder equity: new equity issues, retained earnings and internal cash generation. This period then can be called the equity period and it is the first season of airline financing.

Now let's look at the ratios that come out of the simplified balance sheet that we just saw. (Chart III) First of all the current ratio (the current assets divided by the current liabilities) was about 1.4. That's a healthy ratio. We've learned to live with a lot lower ratio than that since 1954. The debt to equity ratio was 0.4, a very insignificant amount of debt and a very healthy situation. There were no leases, so,even if you include capitalized leases, the ratio is still 0.4. Finally, we were covering our interest charges 13.3 times through internally generated cash flow. Based on these healthy financial ratios, I think you can see why the insurance companies became interested in financing the jet program for the airlines in the period 1955 to 1959. We were healthy, we had a lot of cash flow and we were buying a product which offered true productivity improvement to the airlines. Financing the first jet purchases then was not too difficult a job.

The next chart (Chart IV) shows what aircraft commitments were made by the major U.S. airlines in the 1955 to 1959 time period. These were virtually all 707 and DC-8 aircraft. There were 262 of them committed for in this time period. The total commitment turned out to be $1.5 billion for aircraft and a grand total, adding in ground and other commitments necessary to support this equipment, of $2.2 billion. Comparing that commitment of $2.2 billion to the capitilization base at the beginning of the period of $780 million results in a ratio of commitment to capital base of 2.8. I will be referring to that same ratio as we go along through the various periods of financing. The 2.8 was as high as any ratio that we have had since the second World War. But since we had started with a very strong balance sheet, it was not a very difficult financing problem. How did we do it?

In the period 1955 to 1959, there was $2.2 billion of capital expenditures, as I just mentioned. (Chart V) We also paid out some dividends, about 7% of our total capital usage was dividends, so about $2.3 - $2.4 billion had to be raised. 55% came from internal sources, depreciation plus earnings and 35% came from debt. $841 million of debt was raised in that period on top of the $214 million we had had in the 1954 base year. So we quintrupled our debt in this four year time period and over 90% of it came out of the insurance companies. In addition there was an insignificant amount of lease financing and there was a little bit of equity financing, but less than 8% of the total. I have called this time period Season II, the insurance company period, a time when almost all external financing was senior long-term debt placed with insurance companies.

Q. What forms did these loans take?

A. They took various forms, but generally speaking they were unsecured, senior debt. Guaranteed lease obligations, for example, are senior to these insurance obligations.

Q. The interest rates?

A. The interest rates during this period were delightful by today's standards - in the neighborhood of 4½% or 4¼%. A lot of these original loans have been re-negotiated since and the interest rates have been re-negotiated upwards.

We have reviewed how we sourced our funds in the 1955-1959 time period. Our year-end 1959 balance sheet is shown on Chart VI. Compared to 1954 our working capital had risen to $188 million, not a significant increase. Our operating property, on the other hand, had risen by about a billion dollars to a billion five hundred and sixty two million dollars and our other assets had just about quadrupled. They were $71 million in 1954 and they were $309 million at year end 1959. The balance sheet then, had changed quite drastically. You recall that the stockholder equity was over 70% at the end of 1954; at year-end 1959 it was 43% and debt had risen to 51%. In dollar terms we had increased to almost $1.1 billion from $214 million in debt, and in equity we had gone from $551 million to $880 million. So, for the first time we were beginning to see heavy use of debt financing by the airline industry. Of this total of $1.1 billion, $706 million was in the hands of the insurance companies at the end of 1959, a little better than 2/3 of the entire debt of the industry.

The ratios that result from that balance sheet are shown on Chart VII. The current ratio hasn't changed very much since 1954. The debt-equity ratio, however, had gone from 0.4 to 1.2, so we were then over 50% debt. Inclusion of leases

doesn't really change these figures very much because we hadn't turned to leasing at all heavily at that point in time. One key ratio had worsened dramatically. Our times interest coverage had dropped from thirteen fold to three fold and it was just about at this point that the insurance companies began to get a little nervous about loaning more money to the airline industry.

There were additional technological developments in the early 1960's, however, and efficiency required their purchase. The three-engine jet, the 727 came along, the two-engine jets, the BAC's and the DC-9's came along and the industry required additional four-engine jets to retire some of its older piston equipment and to meet growth. So, in this time period we ordered an additional 842 total aircraft (Chart VIII) with a dollar value, including necessary ground facilities, of $4.2 billion. Now, that was a lot of money, but compared to the year-end 1959 capital base, the commitment was small relative to the early jet acquisition program. Our capitalization, debt plus equity, at the end of 1959 had been $2.1 billion. Our 1960-1965 commitments of $4.3 billion result in a ratio to base capitilization of 2.1. That figure compares to the 2.8 ratio in the latter half of the 1950's.

On Chart IX we see the $4.2 billion in capital expenditures plus another $233 million in dividends. This period I have called the third season of airline financing because we were able to finance a very high percentage of our commitments through internal cash flow, from depreciation and from quite healthy profits in the 1963-1965 period. We did have to turn to debt to some degree - $854 million - but it was only 19% of the total sourcing of capital during this time period. There was little insurance money in this period and leasing and equity financing were not a major factor. So the key to this entire period was the ability we had to finance our commitments from internal sources.

Adding the 1960-1965 cash flows to the balance sheet of 1959, you derive the picture shown in Chart X. Working capital and operating property had each about doubled from 1959 and other assets were up about 50% from the prior total. Total debt had risen to $1.9 billion compared from just over one billion at the end of 1959, but had declined as a percentage to 45% of our total capitalization. Leases still played a nominal role in our balance sheet. Stockholder equity had just about doubled rising to $1.6 billion from $880 million at the end of 1959.

We still, however, had more debt than equity as shown in the next slide. (Chart XI) The current ratio was still running along at about the same level, no problem. The debt-equity ratio had actually improved a little bit between 1959 and 1965. If you add the nominal leasing that had been done, we had just about held our own. We did improve our times interest coverage: we got it back to 6.6 from the level of 3.1 that it had hit in 1959. That was the picture at the end of that era as we came into the most difficult financing period that the airlines have had since World War II.

Q. Would you define times interest coverage?

A. It's the internal generation of cash divided by the interest commitment of the carriers.

We had bought 262 aircraft in the 1955-1959 time period (Chart XII); 842 aircraft in the 1960-1965 time period; and in the 1966-1971 time period we committed for 912 aircraft. These were a lot more expensive aircraft, since inflation really started to bite into us in the latter 1960's. We ordered 214 of the old narrow bodied four-engine jets, we ordered 260 more three-engine 727's,with the 727-200's representing a large proportion of this number. We

also ordered some twin engine jets - 143 of them. The bulk of the dollars, however, went to order 121 747's and 174 of the DC-10 and L-1011 variety. The total commitment for aircraft for the period reached just under ten billion dollars. Including the ground equipment, facilities, etc., the total commitment in this time period was $11.9 billion. Now let's again compare that figure to the capital base that we had entering the period. The capital base at the end of 1965 was $4.2 billion which results in a commitment to capitalization ratio of 2.8. This is the same ratio that we had had in the late 1950's; in between it had been 2.1.

On the face of it then our problem was no more difficult in the late 1960's than it had been back in the late 1950's, but that was not really the case. We didn't have the same balance sheet in 1965, that we had had before we ordered the first jets in 1954. Most financing sources were either drying up, had dried up or had become extremely expensive. We were beginning to get into an inflationary period, interest rates were rising for everyone, but they were rising more rapidly for the kind of credit that the airlines represented than for other kinds of corporations because of our relatively poorer balance sheets and erratic earnings. Insurance companies were not willing to extend further unsecured senior money. (Chart XIII) Prospective equity investors were looking for higher dividend yields because of inflation and, after about 1967, were turned away by declining airline stock prices. So, we came into this period, not with a bigger commitment problem, but with a bigger balance sheet problem, and a much more adverse financing environment than we had had previously. I call this period the fourth season or the "get it where you can" season.

There were three sub-phases to this period. The first phase was use of subordinated convertible debenture financing in order to attract the insurance companies by giving them a sweetener in the form of an equity kicker. The second phase was bank financing and the third phase was lease financing. Those last two phases represent the least desirable types of financing that the airlines can do. We had to turn to them as an industry because other sources were unavailable. They were generally more expensive; nonetheless we had to use them.

Q. Those are sort of the classic money sources. I understand that there are other places like oil companies that have money. How do you get money out of something like that?

A. Out of an oil company? It's quite difficult if you're thinking in terms of direct investment. Airlines normally don't get direct debt financing out of an oil company until they are really in pretty bad shape. Then they may give it to you.

Q. Why shouldn't they care about you being in bad shape?

A. Because they want to collect their money.

Q. Oh, I see.

A. You'll find that carriers really on the ropes may get some oil company financing, but it's just to keep the carrier going and hopefully to collect some back debts. In those cases the oil companies are already so far in, they've got to go little bit more. If you're looking lease financing by oil companies, you run into real problems with the Internal Revenue Service, when you start to deal with other than financial institutions. To be sure that you have tax credits, you really have to be a financial institution.

Let's take a look now at where the insurance companies stood in the airline financing picture in 1968, the middle of this last time period. (Chart XIV) We've already seen that back in the late 1950's they had financed two-thirds of the original jet acquisitions and accounted for 90% of the direct debt. In the next ten years they represented only 28.5% of the total debt sourcing done by the airlines. Even that financing took a different form, as we will see in just a moment. Seven companies that you're all very familiar with, accounted for the large majority of the airline loans. The Metropolitan has the heaviest position, they have about $600 million in the airlines, the Prudential, $500 million, and just a little bit behind them, the Equitable at $220 million and then Hancock, Aetna, MONY, Connecticut General and a batch of others make up the remainder. That is a very heavy concentration, as Mr. Nader says, but only a handful of insurance companies had the assets in this time period to loan the kinds of monies that the airlines needed and never in my experience have these companies in any way attempted to exert control.

There was then a small expansion in insurance company lending and it came in 1966 and 1967. (Chart XV) As an industry we had trifled with convertible subordinated financing prior to this time period, but I really do characterize it as trifling. There had been a little bit in 1958, a nominal amount in 1961, and one issue in 1964. Just at the end of 1965 the real push on subordinated convertible financing began, with a $53 million issue at 4%, which I believe was ours. Then there was a batch of them in 1966 and 1967. You could pick up the paper practically every day and find that some airline was doing subordinated convertible financing. It was cheap and the insurance companies would take that kind of a piece of paper whereas they wouldn't take senior debt financing.

After 1967, however, airline security prices started to fall out of bed. As a result, convertible financing decreased sharply in 1968. Then we had an aberration in 1969. As you may recall, when Pan Am's stock price got down to a low level and Pan Am's total value in the market place fell slightly below $300 million dollars, International Leisure made an attempt to try and take control of Pan Am. Pan Am shrewdly used that run-up in their stock price to finance. They issued a fairly sizable subordinated convertible debenture issue. TWA rode on Pan Am's coat tails, since their stock price had risen with Pan Am's, and they also did a subordinated issue. Those two issues accounted for the $325 million in 1969. The 1970 financing was Eastern Air Line's. It is the only subordinated convertible debenture that I can recall that carried an 8% coupon rate. It was issued when Eastern's stock was selling at 13, or thereabouts, and the conversion price was set between 15 and 16. It was a very, very expensive kind of financing, but it was all that was available to Eastern at the time. Excluding these aberrations, this phase one of season four ended in the third or fourth quarter of 1967 and subordinated convertible markets became closed for airline financing purposes.

Q. Must airlines have senior lender approval when it's a bond issue?

A. Not if it's a subordinated issue - unless, of course, the airline has reached its limit for such financing contained in its loan covenants.

Q. Does the zero in the 1970 debt represent conversion or does it represent laying off of some airlines?

A. It represents conversions. The conversion price as I mentioned on Eastern was 16 or a little below. Eastern's stock price went right through that level in 1971 and they called. Two of American's issues were convertible

at 31 3/4; we called them late last year, and finished the conversion in January. When you get stock prices that permit you to convert these issues, you try and convert them into equity to improve your balance sheet and give you more flexibility.

Q. How do these interest rates compare with insurance interest rates?

A. It depends on what premium is set on the conversion. If it's a 20% premium or a 30% premium above existing market price, it will effect the interest rates that are charged. I would say on balance in this time period a direct senior debt placement would have cost you one-half to a full point higher than these rates.

Q. I think that the VA rate was 3/4 less and a point higher than these.

A. Yes.

Q. Do you do any borrowing from foreign countries?

A. American has none, but some of the international carriers have done some. For a while in 1970 the Swiss market was a pretty good source. You could deal in Eurodollars in a couple of other markets. That was equivalent to bank borrowing, short term borrowing. As an industry we did turn to bank borrowing, but we were able by and large to get our domestic banks to loan at rates that were pretty close to the Eurodollar rate or even below most of the time.

Q. This may not be appropriate now, but if you were unregulated in terms of fare structure would you be better able to cope with your current problem?

A. Yes, I think there would be no question that, if we were unregulated in relation to rate structure, the financial community would feel more secure in lending to us and I suspect the equity investors would also feel more secure. Regulation in certain other areas, however, does give the senior

lenders and the equity investors some security. Regulation as a whole is a bit of a mixed bag, but rate regulations, per se, probably does cost us some points.

So the insurance monies were dried up, we had run out of subordinated convertible opportunities essentially at the end of 1967 and we had to turn to the banks. (Chart XVI) The banks had been only a very minor factor up until the end of 1964. Of our total long-term debt at that point, the banks only had $291 million or 17%. At the end of this period, in 1971, we had total debt of $5.2 billion. Of the new debt placed in this time period, the banks took 27½% of it. Bank financing is probably the least attractive kind of financing that an airline can do. Your commitments are invariably long-term commitments. You're looking at purchases of aircraft which you anticipate will have 12 or 14 or 16 year lives. To go to the bank and finance on a five year type of financing makes little sense. In effect, you are commiting to finance that particular debt two or three times during the course of the life of that aircraft. Therefore, whenever possible, you try and do longer term financing. It wasn't possible in this period, so we did turn to the banks quite heavily. At year end 1971, the 12 carriers had $2.1 billion worth of authorized revolving credit at the banks and were using 44% of it, or just over $900 million. Most airlines view such credits first as something you're going to try to refinance as soon as possible, and second, as an insurance policy. It's awfully nice when you're trying to go to sleep at night to know that you have a $300 million revolver down at the bank and you're only using $50 million

of it. It means that, if market conditions suddenly go sour or if that lease deal you're trying to work out doesn't go through, you can go down to the bank and use your insurance policy to tide you over until market conditions improve. It's expensive insurance, however, and it's not something you carry just for the fun of it.

Finally, very late in 1969 the airline industry entered phase three of this era: the use of a lease instrument very similar to a railroad equipment trust certificate. (Chart XVII) This was an instrument that TWA invented. In December, 1969 they did a $70 million 747 guaranteed loan certificate financing at a 10% coupon rate. We seized upon this and American Airlines lease financed seven 747's in three separate issues during 1970, representing the majority of this total of $248 million in 1970. We paid interest rates ranging from about 10% on up. I'll never forget our highest rate, it was 11%. Another was at 10 7/8% and I forget what the third issue was. Other carriers issued lease certificates at 11¼% and even a little higher. This was the nadir of the airline financial picture during this time period.

Q. Who picked those up?

A. Most of the ones that American did were sold publicly. It becomes a rather expensive transaction in that you have an equity owner and then you sell the long term bonds to the public at the coupon rates shown on Chart XVII. You then, of course, have to have trustees, etc.

Q. They usually are bonds aren't they?

A. These were bonds. All but the last couple were guaranteed by the corporation. In addition to representing a lien on the aircraft as security for the bond, we had to give a separate corporate guarantee in order to sell the bonds.

Q. You didn't tell us about the highest interest rate I've seen in public bonds?

A. In this kind of financing you are selling 70% to 75% of the value of the aircraft in the form of long-term bonds to the public and 25% to 30% is being placed at very low interest rates with equity investors, usually banks who have unused investment tax credits. When one factors in the very low equity rates with the high bond coupon rates, you typically reduce them 3% to 3½% points in terms of the effective borrowing rates to the airline. The airline, of course, is giving up investment tax credit when it finances this way. I'm not taking account of that.

Q. What was the term?

A. We did ours on an 18 year term, most were done on a 16 year term.

Q. Were these callable bonds?

A. They are not callable, they are actually paid out just like you pay out a lease every six months. You're paying off 1/36th or 1/32nd of the face value of the total bond twice a year.

Chart XVIII is as good a summary of the difficulties that the airlines were in in 1971 as any I can think of. I don't know how many of you are familiar with the New York State Insurance Laws and with similar insurance laws in many other states. This law says that the airline, or any corporation to whom an insurance company makes a loan, must have cash flow equivalent to 1.5 times the fixed interest obligations for the year. Any loans to corporations that fail to meet that test in one of the last two years or on average in the last five years are put into a special pot and the insurance company has to increase its reserve against that particular loan. Normally an insurance company will carry

a 1% to 2% reserve against a loan. If you fail this test, however, that will jump to 10% or 20%, depending upon the state. The insurance company just will not loan when they fear that they may have to reserve 10% to 20% against the loan. If they would, the rate would be so high that no airline would be interested in it. American failed this test for the first time in 1970 and was still under in 1971 so we're not eligible at the moment to borrow on an unsecured basis from insurance companies, except under this very high reserve position. Eastern has been under since 1969, Pan Am has been under since, I believe, before 1969, TWA has also been under for three years. United passed in 1969 and then fell out of bed, Braniff has been under throughout the three years, Continental was under for two, they did make it in 1971. Western has been under for the last two years. There are only three carriers today that could go to an insurance company and say I want to borrow some money and the insurance man would smile. They are Delta, National and Northwest. This is an interesting test to watch since it means it is going to be at least a couple of years before we as an industry have real access to the insurance company market.

Q. Have the insurance companies lost anything on their airline loans?

A. They haven't lost anything but when they see figures of this kind their insurance examiners talk to them pretty seriously about how secure is this debt. I went down with Mr. Spater in 1968 and talked to the Chairman of the Board of one of the very large insurance companies and he said we're not going to loan you another cent until you get your current obligation to us down by 33%. That's about $65 million and it's going to be 1980 before we get it that far down on the current repayment schedule.

Q. You defined the fixed charges there as interest and amortization of debt?

A. Yes that's correct. Interest and amortization of the debt and scheduled debt/repayments.

Q. Don, this thing includes rentals?

A. And it does include rentals, yes.

Q. Moreover the ICC has a less onerous test?

A. The ICC has a less onerous test. Under the New York State Insurance Law airlines must include full lease payments whereas the railroads need only include the imputed interest cost portion of lease payments.

Q. Your answer to a question previously asked about oil company money would be that the insurance companies possibly have something better to do with their money?

A. Loan to other people?

Q. Yes.

A. That's what they have been doing to a very large extent. You can sometimes intrigue them with some of the high coupon rates on the guaranteed lease certificates. We did get some insurance companies to participate at 10½% and 11% kinds of rates. Naturally, they like that, because they have the security of the aircraft and they've got the total guarantee of the whole corporation. That's a pretty good piece of paper. It's pretty hard to tempt them, as yet, with less security or with much lower interest rates.

Q. Why wouldn't that same rate attract other investors?

A. It did. For example, a number of pension funds participated in these guaranteed lease certificates from all over the country as did banks and private individuals.

Finally, in the spring of 1971 the airlines got a break. The big investment funds began to believe that 1972 and beyond were going to be very good airline earnings years and airline stocks shot up to double or a little more than double their recession lows. This enabled each of the big five carriers to do equity financing in fairly significant quantities, amounting to increases in shares outstanding ranging from 11% up to 15%. (Chart XIX) You could well see some more such financing. Continental has just completed one in July of 1972, a $27 million issue representing a 10% increase in their shares outstanding. There are other smaller carriers who could follow suit, but I don't think you'll see a lot more of it unless market conditions improve substantially from today's levels.

Q. What's the cost of that?

A. The cost of equity financing? Generally, you have to figure that equity financing in this industry costs you about 15%. It depends, of course, on what you think your cost of capital is and you base your calculations primarily on the expectations of the guy who invests and your historical growth in earnings per share than on anything else. It is expensive, but there comes a point after you've borrowed so much where you have to raise equity to get your balance sheet back in shape.

Q. You show that Continental on the previous chart has been eligible for insurance borrowing. Why did they let them do this instead?

A. Well, I'm not really sure. When they bought their DC-10's they went very heavily into a bank loan. This was in the fall of 1970. They had to get out of the banks, to whom they were further heavily commited, and find some

means of lengthening their terms. Continental has a very high debt equity ratio. It may be because of their debt equity ratio that the insurance companies just didn't want to loan to them. They may have had to do something to their equity side to get their balance sheet looking better.

In summarizing then, in the 1967-1971 time period, for the first time since 1956, the industry failed to generate half of its commitments internally. (Chart XX) We only generated 48%. Debt increased by $3.3 billion and as I indicated, it was bank debt and subordinated convertible debt in large part. Leases for the first time became a major factor in the sourcing of funds, accounting for 16% of the total monies raised during that time period. In the latter years of this period half or more of the aircraft being delivered to the carriers were being leased, because that was the most efficient available kind of financing. Equity money, raised mainly in 1970, represented just under 10% of the money sourced. In all, we spent $11.9 billion. Dividends again dropped as a percentage, down to 3.6% of our fund usage, and of course all but a couple of carriers had suspended any dividend payments by the conclusion of this time period.

Looking now at the balance sheet at year-end 1971, (Chart XXI) working capital was $360 million, actually down in dollar terms from where it had been six years earlier. Operating property had quadrupled during the same period and other assets rose about two and half times. Debt had risen sharply to $5.2 billion from $1.9 billion six years earlier and represented 44% of total capitalization. For the first time leases suddenly emerged as a factor at $2.2 billion or 19%. They had only been $200 million six years before. Stockholder equity also rose, to

$3.3 billion from $1.7 billion, but you can see on the next chart the adverse change in the ratio of debt to equity. (Chart XXII)

The current ratio had fallen sharply to 1.18. You can live with this level, but it can't go much lower. The debt-equity ratio which had risen from 0.4 in 1954 to about 1.2 in the 1960's, has now jumped to 1.56 at the end of 1971. Including leases, the ratio was now up to 2.22. Stated another way, 70% of our total capitalization was debt and capitalized leases.

Now let's look at the future and oddly enough, George James forecasted capital requirements don't pose much of a problem in the 1972-1975 period.

Q. Can I interrupt. Your times interest coverage, was it 1.1?

A. Yes.

Q. That 10%, is that all you have to cover dividends and repayment of principle?

A. That's correct. I suspect we just lost another potential investor here.

Q. Your problem is bigger than I can handle.

On the balance sheet chart for the end of 1971 we saw that our total capitalization, excluding leases, was about $9.7 billion. Dr. James has forecasted for the 1971-1975 period that the commitments of the airlines will be about $7 billion. That produces a commitment to capitalization ratio that's totally different from anything we've been looking at. You will recall that these ratios for the previous time periods were: 1954-1959 - 2.8; 1960-1965 - 2.1; 1966-1971 - 2.8. In contrast commitments now are actually less than the capitalization of the airlines going into this 1972-1975 time period resulting in a ratio of only 0.7. There should be relatively no problem in sourcing these funds.

The next chart (Chart XXIII) is an American Airlines sources and uses of funds schedule. It shows you what a typical carrier like ourselves went through in 1971 and what we've been going through in 1972. In 1971, we spent about $250 million for aircraft, another $140 million for facility expenditures, a little bit for debt retirement and about $20 million for other uses, including dividends. Our sources included depreciation at a little over $100 million and deposits with manufacturers,which had been made previously and were applied at the time of delivery of the aircraft,of $45 million. That left us with a short-fall of some $300 million. To bridge this gap we used leasing heavily, principally the equipment trust certificates that I referred to earlier, and we began to use our revolving credit in 1971 for the first time. We also did an $85 million equity issue. So, we were scrambling, we used leasing; we used revolving bank credit; we used equity financing; we used everything we could find to lay our hands on in 1971. And we met this total commitment of about $450 million.

In 1972 American Airlines still has very heavy commitments, about $430 million in all. Some 19 DC-10's are being delivered to us in 1972. That means we have aircraft financing requirements alone of $350 million this year. In the facilities area we appear to be over the hump, as is the industry generally, I think. The big facility expenditures you saw in the 1969-1971 period are a thing of the past, at least for this equipment cycle. For American they should now run somewhere in the neighborhood of $30 million on a continuing basis for several years. Finally, we have debt retirement of about $30 million. On the sources side of the ledger, depreciation will provide about $110 million and deposits another $140 million because we're taking delivery of so many aircraft. This leaves us with a gap to fill which will be met primarily through leasing and,

hopefully, some profits. We also, of course, have substantial unused revolving credit. We will use that, of course, to fill the portion of this gap that is not filled by other means.

Now, look what happens to our capital requirements in 1973. No aircraft are on order for 1973 delivery. The same is true for 1974, and at the moment, at least, for 1975. So there are no aircraft commitments to fund. The ground facility expenditures should average only about $30 million. Finally, there are debt retirements of about $30 million which brings us up to a total of about $60 odd million funds required for the year 1973. On the source side, our depreciation will be $125 million and normally we have about $30 million in other odds and ends. We have then about $150 million of sources, plus an opportunity to earn money above that. There should, therefore, be a substantial positive cash flow for the airlines in the 1973-1975 time period. This is the first time that there has been more than one year of a positive cash flow for the airlines in the post-war period. It says we have no new financing problems until 1975.

If you add the anticipated cash sources and uses over the next four years to the industry's 1971 balance sheet, you derive the 1975 balance sheet for the airline industry, shown on Chart XXIV. For this purpose we have assumed working capital will be unchanged. In the area of operating property, we have added the aircraft deliveries forcasted by Dr. James. Other assets have been increased nominally. On the liability side the industry's positive cash flow should reduce debt by $700,000. We have assumed that about 30% of the new deliveries will be leased, so lease commitments go up from $2.2 to $2.7 billion. Deferred credits also go up, leaving stockholder equity to rise by 50%.

This 1975 balance sheet looks a lot healthier than the current one. The debt-equity ratio, excluding capitalized leases, is 0.9. In other words, the industry should have more equity than debt for the first time in a long, long time. Even if you include capitalized leases, the debt equity ratio is only 1.4, which is quite a tolerable level. In deriving this 1975 picture we have assumed that earnings recover steadily in 1972 and beyond, but that they don't recover all the way to the 12% rate of return by any means. We have assumed that the industry will resume paying dividends in 1973, with about a 1/3 payout of earnings after taxes. Finally, we have assumed that those convertible issues which are callable reasonably near their current stock market prices will be called during this time period.

Q. What happens to your times interest ratio now?

A. I didn't calculate it, but we improve markedly from today's levels.

Q. Back up to the 13 level?

A. Oh no. We would be back to a point where we qualify for insurance test purposes. I think it would get back into the 3-5 range.

Q. If all the airlines had a moratorium, no new equipment for five or six years, and if there was a traffic buildup, could you sort of have a guaranteed recovery?

A. We have the cash position for that to happen, but the earnings would be the question mark. We have assumed a fairly good level of earnings in this analysis. Realization of those earnings depends on how we meet our growth. If it is done through high load factor, yes we ought to have the recovery.

Let's turn now to my last slide. (Chart XXV) Until yesterday I thought that

Dr. James was going to forecast commiments of $13 billion in the last half of the decade, but he has come up with a figure of $20 billion. One must put that $20 billion in perspective to understand the challenge that it creates for the airline industry. At the end of 1975, on the balance sheet we just looked at, the capitalization of the airlines should be about $11 billion. The $20 billion commitment versus the $11 billion capitalization results in a ratio of 1.8. Remember we have lived with ratios of 2.8, 2.1 and 2.8 in the past. That should indicate that we ought to be able to live with something less than 2.

Nonetheless, there are problems. First, it is questionable whether the insurance companies will provide a major source of long-term funds. Second, the industry has existing bank credits of about a billion dollars which, I doubt, will be expanded very much. Third, I believe we will lease something like 30% of our new aircraft, but probably not much more than 30% can be leased because of covenant restrictions. Leasing also becomes quite expensive unless we continue to have investment tax credits. Convertible debt is a possibility, but its availability depends upon the stock market price. We will have a flow of $7 billion from depreciation in the 1976-1980 time period, but relative to the forecasted $20 billion commitment this would represent a minor contribution. We have never fallen significantly short of financing about half of our commitments from internal sources, i.e., depreciation plus earnings. In order to maintain that record the industry needs to earn about $3 billion in this five year time period. That is equal to $600 million per year after tax on average. Earnings then are the key to whether or not we can meet this kind of a commitment without ruining ourselves in the process.

Q. Will you repeat that last statement?

A. In the past, I said, we have generated approximately half or more than half of our fixed commitments from internally generated funds. In the latter half of the 1970's we will have $7 billion in depreciation, compared to the $20 billion commitment. So to close the gap, we need another $3 billion to total $10 billion or 50%. That $3 billion has to be earnings. If you divide that by five, you get $600 million per year after tax.

Q. What's the total cash flow?

A. Today, for the industry depreciation is running about $875 million per year. Earnings, according to Mr. Secor Browne, should be in the neighborhood of $250 million this year for the airlines.

BASIC CHARACTERISTICS OF THE AIRLINE INDUSTRY

1. SUSCEPTIBLE TO BUSINESS CYCLE.
2. SERVICE INDUSTRY.
3. CLOSELY GOVERNMENT REGULATED.
   (ROUTES, RATES, SAFETY)
4. HIGHLY COMPETITIVE.
5. HIGH GROWTH.
6. RAPID TECHNOLOGICAL CHANGE.
7. CAPITAL HUNGRY.
8. HIGHLY SEASONAL.

SEASON I
THE EQUITY PERIOD
UP TO 12/31/54

BALANCE SHEET
MAJOR U. S. AIRLINES
YEAR END 1954
($ millions)

Working Capital	$128	
Operating Property	581	
Other Assets	71	
		% of Capitalization
Debt	$214	27.4%
Deferred Credits	15	1.9
Stockholders' Equity	551	70.7

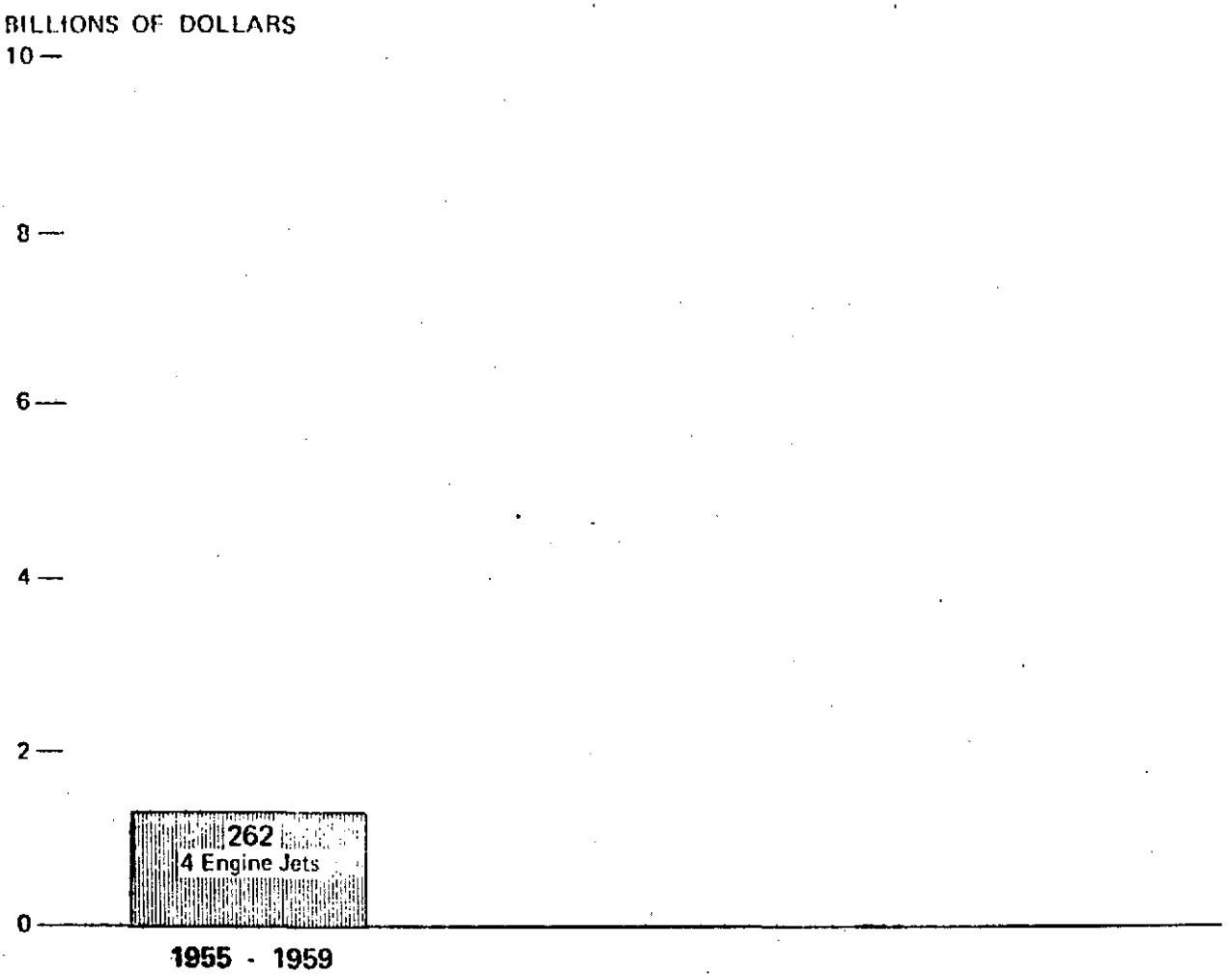
CHART III

KEY FINANCING RATIOS
MAJOR U. S. AIRLINES

	1954
Current Ratio	1.39
Debt/Equity	.39
Debt/Equity (incl. Leases)	.39
Times Interest Coverage	13.3

CHART IV

AIRCRAFT COMMITMENTS
MAJOR U.S. AIRLINES



SEASON II
THE INSURANCE CO. PERIOD
1955 - 1959

SOURCES & USES OF FUNDS
MAJOR U. S. AIRLINES
1955-1959
($ millions)

Sources		% of Total
Internal	$1305	55.0%
Debt	841	35.4
Leases	42	1.8
Equity	186	7.8
Uses		
Capital Expenditures	$2212	93.2%
Dividends	162	6.8

BALANCE SHEET
MAJOR U. S. AIRLINES
YEAR END 1959
($ millions)

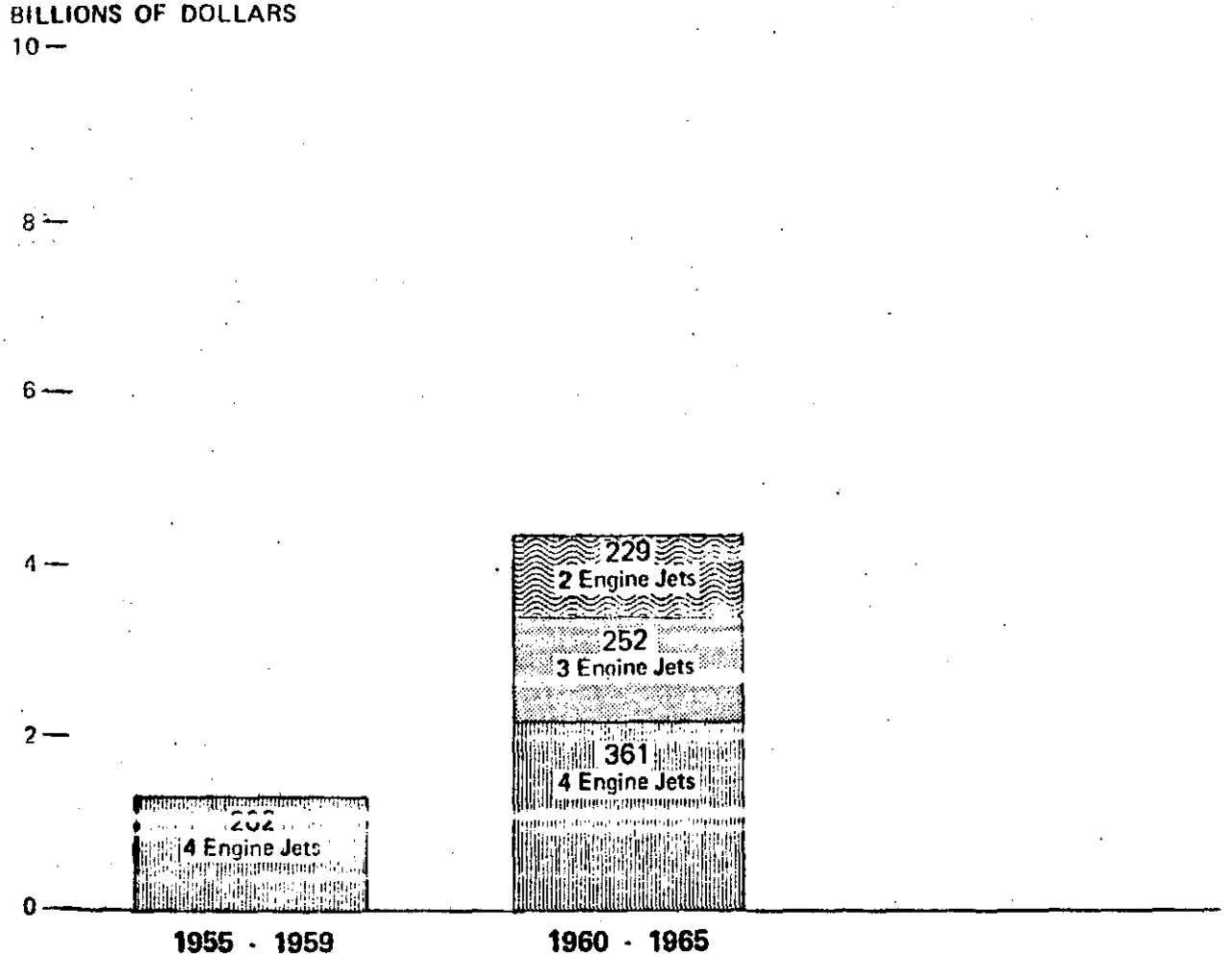
Working Capital	$ 188	
Operating Property	1562	
Other Assets	309	
		% of Capitalization
Debt	$1055	51.2%
Deferred Credits	124	6.0
Stockholders' Equity	880	42.8

CHART VII

KEY FINANCING RATIOS
MAJOR U. S. AIRLINES

	1954	1959
Current Ratio	1.39	1.33
Debt/Equity	.39	1.20
Debt/Equity (incl. Leases)	.39	1.25
Times Interest Coverage	13.3	3.1

AIRCRAFT COMMITMENTS
MAJOR U.S. AIRLINES



SEASON III
INTERNALLY FINANCED GROWTH

SOURCES & USES OF FUNDS
MAJOR U. S. AIRLINES
1960-1965
($ millions)

Sources		% of Total
Internal	$3174	70.6%
Debt	854	19.0
Leases	175	3.9
Equity	290	6.5
Uses		
Capital Expenditures	$4260	94.8%
Dividends	233	5.2

BALANCE SHEET[1/]
MAJOR U. S. AIRLINES
YEAR END 1965
($ millions)

Working Capital	$ 378	
Operating Property	3352	
Other Assets	488	
		% of Capitalization
Debt	$1908	45.2%
Leases	218	5.2
Deferred Credits	431	10.2
Stockholders' Equity	1661	39.4

1/ includes capitalized leases for aircraft

CHART XI

KEY FINANCING RATIOS
MAJOR U. S. AIRLINES

	1954	1959	1965
Current Ratio	1.39	1.33	1.39
Debt/Equity	.39	1.20	1.15
Debt/Equity (incl. Leases)	.39	1.25	1.28
Times Interest Coverage	13.3	3.1	6.6

CHART XII

AIRCRAFT COMMITMENTS
MAJOR U.S. AIRLINES

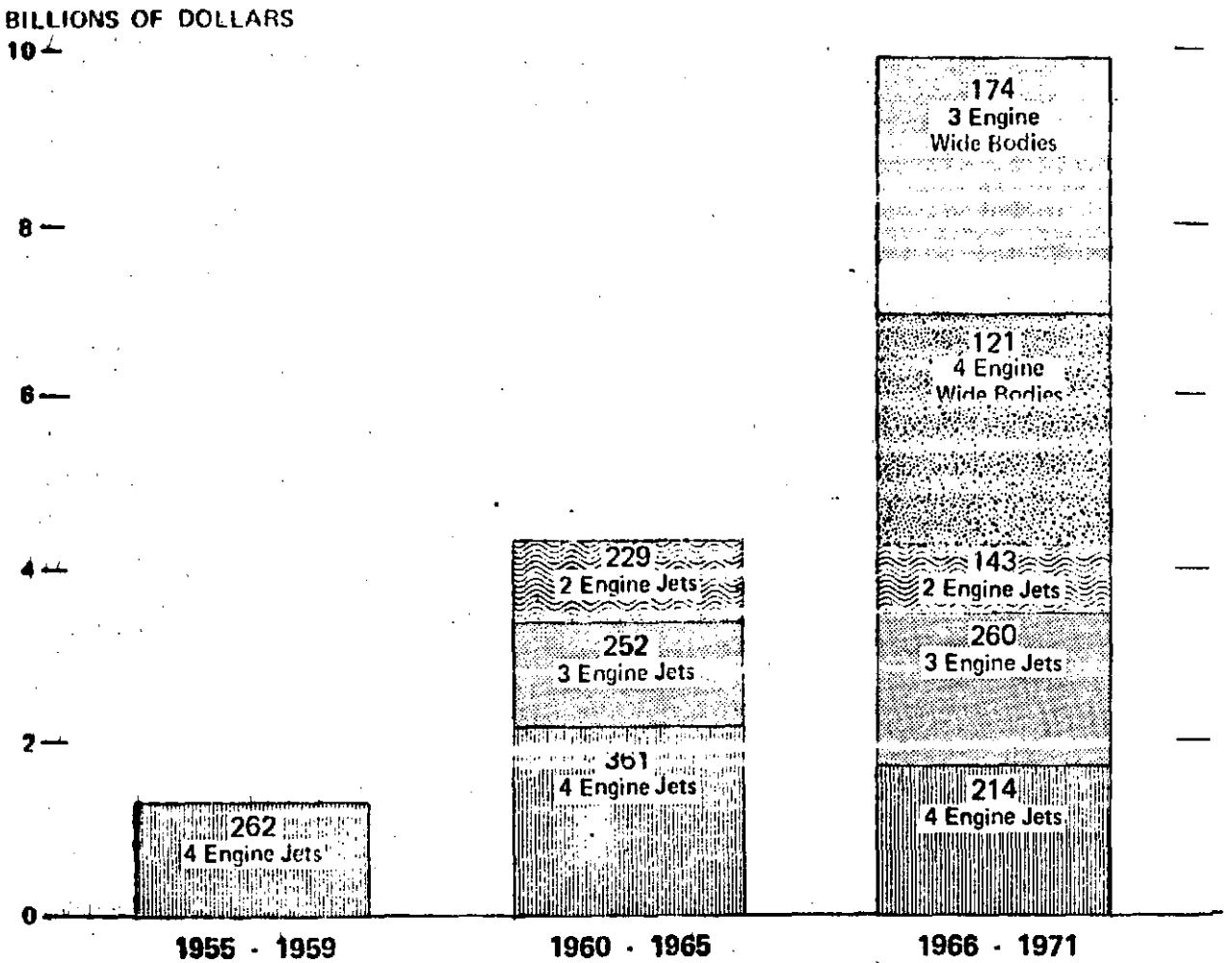


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CHART XIII

SEASON IV
GET IT WHERE YOU CAN

THE SECOND HALF OF THE DECADE

MOST FINANCING SOURCES DRIED UP OR BECAME VERY EXPENSIVE

- INTEREST RATES RISING
- INSURANCE COMPANIES NOT WILLING TO INCREASE LENDING
- PROSPECTIVE EQUITY INVESTORS SEEKING HIGHER DIVIDEND YIELDS
- AIRLINE EQUITY MARKET ANTICIPATING DECLINING EARNINGS

BUT CONSIDERABLE EXTERNAL FINANCING WAS NECESSARY TO MEET THE COMMITMENTS FOR NEW AIRCRAFT. MORE EXPENSIVE SOURCES OF FINANCING HAD TO BE TAPPED

a. SUBORDINATED CONVERTIBLE DEBENTURES

b. BANK CREDITS

c. LEASING

MAJOR U. S. AIRLINES
SOURCE OF LONG TERM DEBT
INSURANCE COMPANIES
($ millions)

Total Long Term Debt at Year End 1959	$1,055
Debt Held by Insurance Companies	706
Insurance Debt as % of Total	66.9%
Total Long Term Debt at Year End 1968	$4,592
Debt Held by Insurance Companies	1,713
Insurance Debt as % of Total	37.3%
% of New Debt Financed By Insurance Companies	28.5%

Representative Companies	% of 1968 Insurance Total
Metropolitan	30.1%
Prudential	21.2
Equitable	12.7
John Hancock	5.3
Aetna	5.0
Mutual Life of New York	3.5
Connecticut General	3.3
Others	18.9

MAJOR U. S. AIRLINES
CONVERTIBLE DEBT FINANCING
PUBLICLY ISSUED
($ millions)

	Amount	Average Interest Rate	% Outstanding At Year End 1971
1959	$ 47	4.9%	8.5%
1961	10	6.0	0
1964	60	4.5	41.7
1965	53	4.0	0
1966	382	5.0	77.5
1967	508	4.3	100.0
1968	80	4.9	100.0
1969	325	5.1	100.0
1970	80	8.0	0

MAJOR U. S. AIRLINES
SOURCE OF LONG TERM DEBT
BANKS
($ millions)

Total Long Term Debt at Year End 1964	$1,689
Debt Held by Banks	291
Bank Debt as % of Total	17.2%
Total Long Term Debt at Year End 1971	$5,194
Debt Held by Banks	1,256
Bank Debt as % of Total	24.2%
% of New Debt Financed by Banks	27.5%

Revolving Credit Agreements
At Year End 1971

Available Credit Authorized	$2,120
Amount Borrowed	908

MAJOR U. S. AIRLINES
GUARANTEED LOAN CERTIFICATES
($ millions)

	Amount	Average Coupon Interest Rate
1969	$ 70	10.0%
1970	248	11.1
1971	103	10.7

MAJOR U. S. AIRLINES
COVERAGE OF FIXED CHARGES

	1969	1970	1971
American	1.55	.68	1.02
Eastern	.96	1.07	1.06
Pan Am	.38	.33	.49
TWA	1.17	.26	1.01
United	1.88	.58	1.01
Braniff	1.25	.90	1.32
Continental	1.27	1.24	1.56
Delta	3.87	3.26	2.97
National	3.09	*	1.77
Northwest	6.51	3.13	*
Western	*	.93	1.46

☐ does not meet requirement of N. Y. State Insurance Law for coverage by 1.5 times.

* not representative because of strike.

MAJOR U. S. AIRLINES
RECENT EQUITY FINANCING
($ millions)

	Company	Amount	Increase in Shares Outstanding
April 1971	Pan Am	$ 67.0	11.2%
May 1971	United	88.8	13.6
June 1971	American	89.9	15.7
July 1971	TWA	37.9	14.2
May 1972	Eastern	54.3	11.7
July 1972	Continental	27.0	10.6
	TOTAL	$364.9	

SOURCES & USES OF FUNDS
MAJOR U. S. AIRLINES
1966-1971
($ millions)

Sources		% of Total
Internal	$ 5929	47.9%
Debt	3322	26.8
Leases	2001	16.2
Equity	1132	9.1
Uses		
Capital Expenditures	$11934	96.4%
Dividends	450	3.6

BALANCE SHEET[1/]
MAJOR U. S. AIRLINES
YEAR END 1971
($ millions)

Working Capital	$ 363	
Operating Property	10147	
Other Assets	1360	
		% of Capitalization
Debt	$ 5230	44.1%
Leases	2219	18.7
Deferred Credits	1064	9.0
Stockholders' Equity	3357	28.2

1/ includes capitalized leases for aircraft

KEY FINANCING RATIOS
MAJOR U. S. AIRLINES

	1954	1959	1965	1971
Current Ratio	1.39	1.33	1.39	1.18
Debt/Equity	.39	1.20	1.15	1.56
Debt/Equity (incl. Leases)	.39	1.25	1.28	2.22
Times Interest Coverage	13.3	3.1	6.6	1.1

4/10

SOURCES AND USES OF FUNDS
AMERICAN AIRLINES, INC.
1971 - 1973

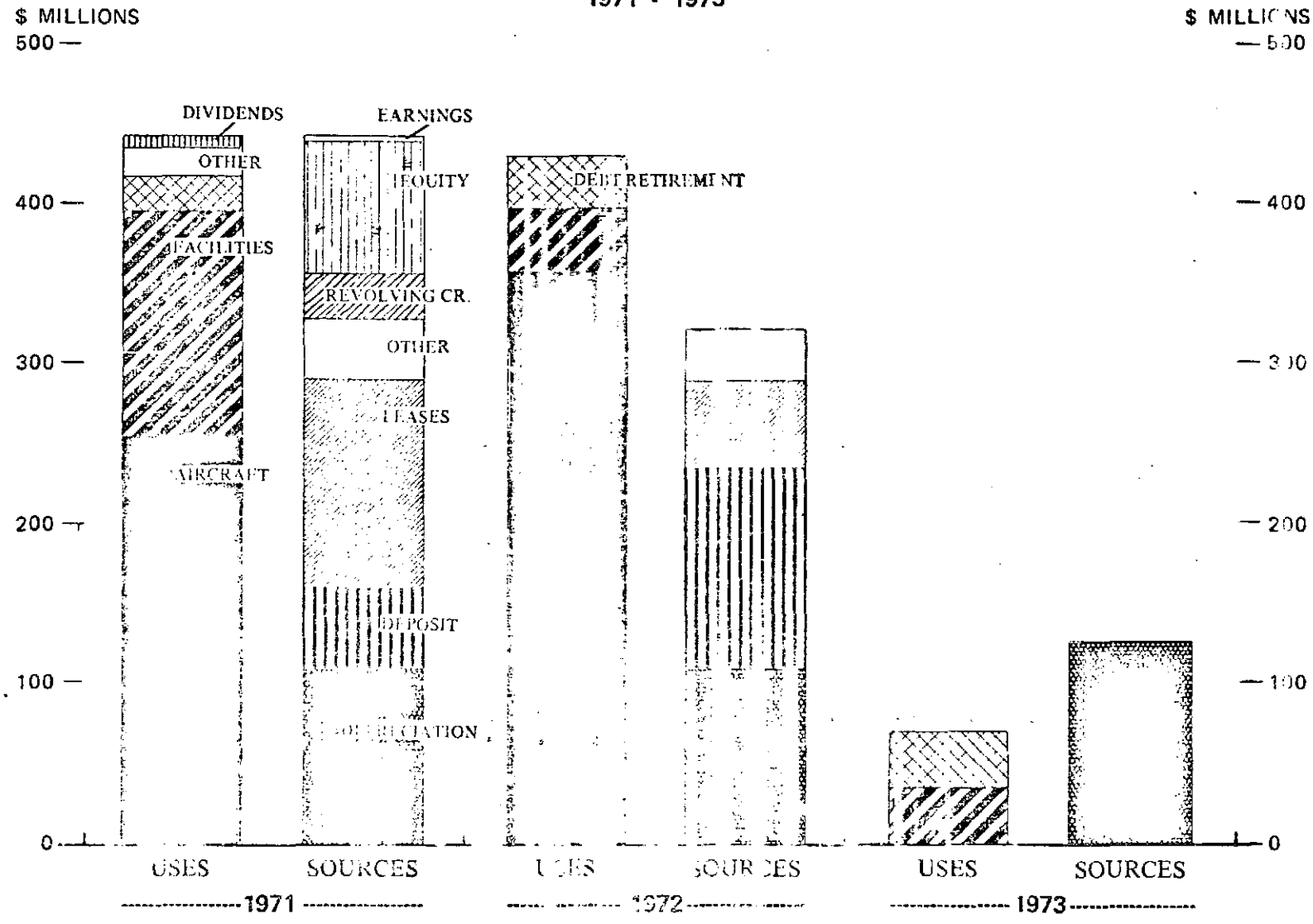

CHART XXIII

MAJOR U. S. AIRLINES
COMPARATIVE BALANCE SHEET
ESTIMATED 1975 vs. 1971
($ billions)

	1971	1975
Working Capital	$ .4	$ .4
Operating Property	10.1	11.6
Other Assets	1.4	1.7
Debt	$ 5.2	$ 4.5
Leases	2.2	2.7
Deferred Credits	1.1	1.4
Stockholders' Equity	3.4	5.1
Key Ratios		
Current Ratio	1.18	1.15
Debt/Equity	1.56	.89
Debt/Equity (incl Leases)	2.22	1.41

Basic Assumptions

- Earnings recover, but below 12% return
- Dividends resumed at 1/3 payout
- Convertibles called as equity prices improve
- Capital commitments at $6 billion

THE SECOND HALF OF THE DECADE
($ billions)

Commitments	
1976 - 1980	$20
Sources of Funds	
Debt	
Insurance Companies	Nominal
Banks-Existing Credit	$1
Leasing	Limited & Expensive
Convertible Debt	Dilution
Depreciation	$7
Earnings	?
Equity	Dependent Upon Earnings
New Alternatives	?