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**NEW APPROACHES TO INVESTING
PENSION ASSETS**

Moderator: RONALD KARP. Panelists: PETER ALDRICH*, SPENCER TIMM,
JAMES P. CROT***, JAMES H. GATELY******

1. Real estate
2. Foreign investments
3. Gold
4. Allocation of assets to various investment categories.

MR. RONALD KARP: We have what I believe is a very interesting panel set out for you this morning that will explore some investment vehicles apart from the traditional ones, i.e., apart from U.S. and Canadian stock and bond markets.

There was an investment conference held recently that highlighted its marketing brochure with an ancient oriental salutation that translates to the greeting - "May you live in interesting times!" I think from an investment point of view that that request has been granted to us all.

Last fall, I had the pleasure of moderating a panel on a topic similar to ours today. I'd like to quote one of my opening paragraphs to that group - one that was intended to really shake them up.

"With a prime rate over 15%, gold at about \$400 per ounce, a bond market that can drop 8% in a month (as it did last month), and a stock market that can't get out of its own way - things are certainly not dull."

That was less than a year ago. As a measure of our rapidly changing times, the first three "blockbusters" in that paragraph no longer have much shock value. First, the prime rate at U.S. banks - then stunning at over 15% - is now modestly below that during a cyclic interest rate downturn, having tapped 20% in the interim.

* Mr. Aldrich, not a member of the Society, is President of the Boston Company Real Estate Counsel, Inc., Boston, MA.

** Mr. Timm, not a member of the Society, is Vice President and Senior Trust Officer of the State Street Bank and Trust Company, Boston, MA.

*** Mr. Crot, not a member of the Society, is President of the Pictet Bank and Trust, Ltd., Geneva, Switzerland.

**** Mr. Gateley, not a member of the Society, is Vice President, Asset Management Department, Prudential Insurance Company, Newark, NJ.

Second, gold then at the shocking price of over \$400 per ounce, is now cheap at \$650, having been \$800. And third, as an encore to the October 1979 bond market to which I had referred, we experienced January and February of this year - each with declines of 7%. Luckily, April reversed those fortunes or our attendance at this meeting may have been substantially less. Well, things are still certainly not dull.

It isn't necessary to tell this group of the great importance of investment earnings toward accomplishing pension benefit goals. This importance is magnified in inflationary times because of the greater dollar consequences of investment shortfalls. These shortfalls must be offset in one of two ways - either by increased contributions and/or by deficient benefits - both of which are painful.

Besides their importance, the item which has really brought investment results to the forefront of our consciousness is that, in general, our investments haven't performed for us. They haven't done their job.

I don't mean that our investment managers haven't performed. I was getting at a much broader point - that our markets haven't performed. I'm sure you have all heard the expression that "you can't pay benefits with relative performance". Most of us measure investment managers and evaluate our pension managers by looking at results and returns and comparing them to appropriate standards. An example would be the use of the Standard & Poor's 500 Index for equities, or some measure of other managed pension money. This relative approach has much validity for the evaluation of a manager's performance, but it may divert us from some other very important aspects about our fund's performance.

My point is that there are two main facets of performance. One results from the allocation of assets among the different investment vehicles, the selection of markets, or asset allocation. The second results from the selection of individual holdings, of specific assets, or security selection. It's very important for those with responsibility for pension plan assets to be cognizant of the difference between them. One is policy (asset allocation), the other is tactics or execution strategy (asset selection). Your manager or managers may or may not be involved in and have responsibility for policy, but would nearly always have responsibility for strategy.

Our topic today is concerned with the first of these two facets - the asset allocation or policy question. Although more time and energy are expended on strategy and monitoring relative performance, I feel that the policy decisions which pension plan sponsors make will have a much greater bearing on fund results over the next 5 or 10 years.

In fact, the policy questions have been receiving increasing attention from plan sponsors. Part of the effort and most of the quantitative analysis has been aimed at determining the desired stock/bond or stock/bond/cash equivalent mix. Within the past few years, however, there has been increasing attention to "alternatives" and for obvious reasons the focus has been oriented around finding those vehicles which can deal with the unusual and interesting and inflationary times in which we find ourselves.

Some vehicles, such as precious gems, commodities, art, etc. have only begun to be discussed. But other alternatives have attained wide acceptance and are receiving increased use in pension portfolios today.

We're fortunate to have very qualified guests to speak with us about three vehicles that may offer some answers, or at least make some contribution, to our quest for the right pension fund investments during these inflationary times.

First, Peter Aldrich will discuss real estate investing. Then, Spencer Timm will cover several aspects of international investing. Third, James Crot will discuss the substance which my old economics professor referred to as the "barbarous relic", and of which we all wish we had some more - gold. Finally, Jim Gately will pull it all together for us and discuss the process of making these difficult asset allocation decisions.

MR. PETER ALDRICH: I would like to talk about real estate, which is sort of the step-child of the investment business, I think. It's probably the business you're all in and most comfortable with. We ought to start off this morning by talking about your real estate investment, which is your home, and how most pension administrators or consultants or actuaries or others with whom I speak would like the real estate investment business to be. If that were the world I could address you this morning and say, "Well, I looked up in the Journal this morning, and your house increased yesterday about 4 mills per thousand. The market was mixed and opened with heavy trading. In Southern Connecticut there was a great deal of activity but there was some profit taking at noon. The market closed down a bit from its early morning high, but still managed to gain 2.8 mills. The dividend yield on industrial properties was affected by some very heavy selling in Southern California. It goes on, and you read probably in the back page about a great theoretical dispute that was going on between those two famous theorists, Circle Rosensweig and Bard Graphberg, trying to decide whether the beta for two and a half family homes was affecting condo conversions or the like.

This is a very intelligent audience which has invested in the real estate business through your homes, and for some reason, when you go to work you turn it off. It's as if it didn't exist; you weren't real estate investors. I would wager that a significant portion of you have a significant portion of your net worth tied up in real estate. It's really a different world. I think it's a world that's been very intimidating to the investment community. It's a world that has a different jargon, which is half the problem. But it's a world where, if you don't let your common sense get away from you, you can quite comfortably operate and ask the right questions. But it is a different world. It's a world that's so different that -- well, the primary rule of thumb in this business is so heinous that it's never spoken in English, or in French, for that matter. It's always spoken in Latin. Caveat emptor. Let the buyer beware. Now you all know that. You have the common sense to be a little bit skeptical in the real estate business, particularly of the person who's trying to sell you something, or borrow your money.

But if you guard your common sense and use the concepts that you're familiar with in your own business, you'll find a fairly comfortable time of it in real estate. All you have to do is learn the jargon and learn how to translate your previous training into that jargon. Once you learn the jargon you do want to be a little bit careful. I want to try and touch on a few things that you may think are bold assertions. This morning I would like to suggest that real estate investment for you and your clients is inevitable. And secondly, that it is desirable. And thirdly, I'd like to touch briefly on what an actuary's role might be in that business, particularly as it affects pension plans and their movement into real estate. And finally I'd like to suggest to you some measures of risk management since I think that's a concern of many of you. To do this, I have chosen to give you a brief outline of an actual course in risk management in real estate.

Firstly, it's inevitable. The real estate capital market is not a small step-child. It may shock some of you to know that right now there are probably about \$1.3 or \$1.4 trillion of real estate mortgages outstanding. Now compare that with all the government debt and all the corporate debt and you realize that you have a comparable number. I don't know what the real estate equity value is in the real estate capital market, and really no one does. People have made attempts to figure that one out, and I've seen estimates for farm and one-to-four-family houses of \$2 1/2 trillion, and I've seen estimates of the whole ball of wax up to \$4 trillion. Whatever it is, it's comparable to all the value of all the corporations public and private in the United States and some consider that it exceeds it substantially. It's a major capital market. Historically it has utilized about a third of the nation's savings. And the reason I say it's inevitable is because I'm a bit of a historian. If any of you have looked at Colonial economic history, you'll realize that probably two-thirds of the retirement wealth in the Colonies was held in the form of purchase money mortgages on homes. You may refer to them as log cabins or homesteads or whatever, but that indeed was the primary medium of retirement savings.

If you look at more recent history, you'll see that our retirement savings, which were traditionally held in the form of whole life policies or savings accounts in thrift **institutions**, were dedicated very significantly to the real estate markets. About 40% before the late 1950's in the life business. It goes up and down, and sometimes fluctuates around a third. The thrift institutions of course are regulated and will have up to 80% of their assets in real estate, primarily real estate mortgages.

I think pension dollars are really indistinguishable from savings account dollars or whole life insurance dollars. They're just held by a different intermediary. I think if we're not going to have massive capital dislocations in our society, you're going to have to see a lot of that go into real estate. And indeed it is now. That's desirable. Well, it's desirable sometimes, depending on how you do it. I suppose that's true of all pleasures. The one that I think people ought to focus on today is real estate as an inflation hedging investment. And that's the medium that we tend to use it for.

Historically, it has generally been true that the construction cost index has regularly exceeded the general rate of inflation. If that's the case and if you were trying to hedge inflation, you'd probably look for something that magnified inflation. And indeed real estate has been an inflation magnifier. Imagine the value of the relationship if you find someone who is foolhardy enough to lend you money at a fixed rate of interest for 30 years. You can actually lever that difference, so that you have a dramatically geared inflation hedge. I don't know if it's coincidental or not that the stock market is counter-cyclical with real estate assets. I do know that if you attempt to invest in real estate through the medium of common stocks you're going to lose that negative correlation, which is something to be aware of. I personally don't think that this inverse relationship will remain as reliable as it has been in the past. But I do believe that the construction cost escalator is a phenomenon on which you can bank. We've gone back over 100 years to research it.

Now, it's inevitable, it's desirable, so let's get at it. And what would be an actuary's role? Well, I think there are several that have appeared so far. Many actuarial firms are beginning to involve themselves with manager selection, and I think that in the long run that will be appropriate. But I think in the short term it is sort of the height of arrogance to become involved in that business unless as an individual and as a firm you have tremendous confidence in the things that have to be evaluated beforehand. Such things, for instance, as performance evaluation, which many firms will go into. I think you ought to have competence in that first before getting into manager selection. And performance evaluation in real estate is not so straightforward. Because it also means that you have to measure performance. And they're entirely different things. People in the real estate business, let alone the accounting profession, still can't agree on how to measure real estate performance. So before you even talk about evaluation you have to get into measurement. And evaluation is very elusive. I think this group could debate the performance of the Prudential Property Investment Separate Account (PRISA) and could justify positions on the whole spectrum of evaluations. I don't even think as a group we could come to grips or agree as to what was an appropriate accounting for the performance of that organization and that portfolio.

Well, if you can get to portfolio measurement, it means you've probably solved the problem of asset evaluation, which is, again, something the accounting profession has not coped with completely, let alone the real estate profession. If you're into asset evaluation it probably means you're in a long-term investment mode and you're pursuing some kind of an investment plan. And this is terribly important in real estate. Strategic planning. It happens to be where I think actuaries can make the biggest impact over the next decade with their clients, helping them to develop real estate strategic plans.

To have a strategic plan you certainly have to know what you want to accomplish and what is a reasonable means of doing so. And that gets me to what I think should be the most important task, and that's education. An education is most profoundly lacking in our industry today. And the lack of it is probably what's going to lead to the major disasters. And I'm sure it's coming. There's a sort of tidal wave of interest by pension plans in real estate, and somebody is going to do something terribly imprudent, and everyone is going to get a black eye. In retrospect, five years later, it's going to look like the most foolhardy thing in the world, but at the time it's going to appear to be the single most desirable decision that that manager has faced. I believe that education is something that we're sorely lacking and that actuarial firms can play a very significant role in.

Now, in terms of education, I want to suggest to you that risk management is probably the way to go about it. You are going to have to look to real estate professionals, people who are experienced in real property, to select the assets themselves. If you want warehouses, they'll tell you what's a good warehouse, and the like. But there are some things that lend themselves to rigorous analysis by investment professionals, and that's risk management. When there is a real estate decision to be made, it's really three separate decisions. The first one is in selecting a property. The decision is intuitive from your very experience as a user of facilities. It lends itself to lots of analyses and experience. That's probably where you have the biggest head start.

Every real estate investment decision also involves an investment. How do you do it? It has nothing to do with the property in many respects. It's the form in which you put your money into the property. Are you really making a real estate investment or are you making a credit decision, or what are you doing?

The third investment decision or area of decision is the one that's most often forgotten or taken for granted. And that's the people involved. Real estate is a people intensive business. Every property has to be managed. This property alone probably has a staff of several hundred people. Real estate is management intensive. It is also a private capital market and there is no Wall Street Journal quotation, and there are no reliable management or industry organizations. It is very easy to fleece someone and disappear. In fact it's an industry in which caution, caveat emptor, is very important because it's an industry in which the statute of frauds does not apply to anything but written contracts. It is very unique in that respect. There is a separate law of property in our legal system. Now this has all been modified recently but the basic tenet of real property is "buyer beware".

When confronted with a real estate strategic plan decision, or a particular property decision, if you can just separate those three areas, I think then your common sense can take over. Now let me give you an example. Let's first turn to properties. What are the risks in properties?

What's the difference between this building and a warehouse? Or what's the difference between your office and Disney World? I would contend that there is a hierarchy of complexity in real estate, and the more risk you take the more reward you ought to get. If some client says to you "Well, I'm really afraid of real estate so I want to do very conservative investments," make sure that you place that investment objective somewhere on the property risk spectrum. If he wants conservative properties, then he ought to do warehouses or low-rise suburban office building or something.

Now land. Land should really appear twice on the risk spectrum, at the bottom and also at the top. The land at the bottom is land that can be purchased at a price that's economically justified by its current use. That's something the Europeans learned ages ago. You can buy a farm and it could make money as a farm. But, if you buy that farm at a price that's only justified by subdividing it, getting it rezoned, and selling off single family house lots, that's speculation. And that's an entirely different business. You can quantify this if you are interested, and the quantification in my opinion has to do with the percentage of the total cost of occupancy by the user that's dedicated to supporting the capital charge of the bricks and mortar.

Let's turn to the investment side and see if that's intuitive. How do you put your money into real estate? Well, traditionally, people have put retirement savings into real estate in the form of first mortgages, and that's a very secure method. Real estate hasn't gone down in value much if it's been well selected, and you get paid first before the owner gets any distribution.

The feeling often is that you don't want to do any leverage because that's very risky, and there's awful tax consequences, and what not. Well, this is where the greatest mythology has developed in real estate investment. And let me suggest without trying to lecture the subject, that he who invests without any leverage in the real estate capital markets has made a conscious decision to be at least half and probably two-thirds a fixed-income mortgage investor, and one-half to one-third a leveraged equity investor. Because, despite what your advisors may say, that's the structure of the real estate capital market. And if you fail to avail yourselves of the leverage available on a non-recourse basis for fixed assets, you've made a decision to fund your own mortgage. The pricing structure in the market place presumes leverage. That's something not to forget because the federal government has placed a powerful incentive for taxable owners to own property. The depreciation incentive and the ability to also write off the interest charge on leverage. The pricing structure in the market place, not for purchases so much as for rent, is determined by the depreciation subsidy in part. Also by the fixed interest rate on corporate debt in part. But don't be deceived when you're buying property free and clear that you're escaping any involvement in the leverage market. You're just doing a very defensive, relatively fixed income oriented investment strategy.

The quantitative approach here that you can use, the one we use, is the amount of your capital invested relative to the total value of the property on the one hand, and relative to the capital senior to it on the other hand. You have to attract two ratios. And that lends itself to very rigorous quantitative analysis.

Now, we can put the two together and you begin to get a conceptual framework for strategic planning. How do you set investment objectives for a fund? You may chose to use very defensive investment techniques like senior ground leases or first mortgages, but to accept more risk on the property side, **you** might **then** chose to do a mortgage on this hotel. Or you might want a lot of leverage in order to hedge inflation, but you may be very worried about property. In this case, you might select leveraged warehouses.

Now let me add a further dimension. We've just been talking about existing properties that are fully leased and completed. In real estate investment, the majority of real investment decisions have to do with development of one kind or another. The building is completed but it's not completely leased, or the building is leased, but it's under construction. You have to make your decision as to what kind of time risk you want to take. Time is really the dimension here, and it's also called the development risk. It is something that's susceptible to quantification, and you can actually get into log paper if you want to, and I tend to think of dollar years. That gets fairly esoteric. Most pension funds will want to involve themselves in the plane at the bottom of the spectrum, fully leased and completed properties. You can get tremendous investment premiums by going up the spectrum, but don't go too far up. When you get into that part of the business, you're competing with investors who have a unique advantage. The U.S. Federal Government can pay up to 70% of the cost of failure. A lot of individuals shelter unearned income with aggressive real estate investment strategies that play the development risk.

We've discussed properties and investment technologies and I think they are reasonably intuitive risks. Let's look at the final one -- the people risk. And this is the toughest of all. In real estate, historically, control has been terribly important to maintain. In management intensive properties, he who loses control is he who loses the ability to manage his earnings, to make money reliably in the long term. Indeed, he who loses control is one who exposes himself to the risk of equity loss. So we have a control or advocacy risk spectrum. This risk is difficult to quantify but it has to do with the basic notion that the real estate private capital markets are caveat emptor markets, they're advocacy markets. Every buyer's gain is a seller's loss, every lender's gain is a borrower's loss, every tenant's gain is a landlord's loss. It is a business in which it's impossible to be the fair intermediary. Everyone must wear a hat. If you are a pension investor seeking to give someone fiduciary discretion over your assets, don't give it to a real estate broker. His constituency is on the sell side of the street, not the investment side of the street. This is just common sense, but the industry is probably unknown to many of you. This is where you should turn to people who are in the business for help.

We try to maintain an updated list of organizations that offer real estate investment services to pension plans, and it's a tough one to keep updated. It's one of those markets that's having a dramatic rate of entry now by new organizations. There is one factor that is somewhat missing in the real estate business, and you can help put it there. It's called "Professionalism." There is very little of it and we need a great deal of it, I think. It should be the primary role of actuarial firms to educate themselves in the real estate business and to begin to inject some of it. We need professional standards, we don't have them, and I think the industry ought to start to look to you to develop them.

MR. SPENCER TIMM: In preparing my presentation for you this morning, it struck me that within the State Street Bank and some of the organizations that we're talking to, international investment has become commonplace. I think in our own minds we may be a step ahead of where the pension industry is right now, but I have no doubt that international investment is rapidly becoming a common asset allocation vehicle, with good reason. Currently the United States market represents roughly 53% of the capitalization of the world market. It's rapidly moving towards half and less than half as foreign markets expand on a more rapid basis than the U.S. This is brought out by the fact that currently less than 50% of the liquidity in world markets is represented by the U.S. market place. Not too long ago those figures were very, very different. Turnover rates in foreign markets are once again increasing much more rapidly than they are in the United States.

As a result, major U.S. and Canadian fund sponsors have been moving into international investment. Organizations like Standard Oil of Indiana, United Technologies, Atlantic Richfield, and the Teachers Insurance & Annuity Association/College Retirement Equities Fund (TIAA/CREF), have moved very aggressively into the international marketplace. International investments are now becoming what they probably should have been quite awhile ago -- part of a pension investment program. Currently there are about \$2 billion of U.S. pension assets, or U.S. assets, invested in foreign securities. A.G. Becker forecast about two years ago that that figure would grow to \$20 billion within five years. I think that was a mistake. It's probably more likely that we will see something between \$5 billion and \$8 billion over that five year period, and closer to \$5 than to \$8 billion. There's a fear of going overseas, certainly within the realm of U.S. sponsorship. There's something downright frightening about moving overseas, with pension assets only. It's something I can never understand.

I was at one of the three major U.S. auto manufacturers recently. You may recognize them, but I won't mention their name. They have gotten no profit whatsoever from their U.S. operations in the last couple of years and only gain profit from their foreign operations. However, the thought of investing pension assets overseas is impossible. They can bring back corporate income from overseas and probably save the corporation, but somehow their pensioners cannot benefit from the same type of investment. So there has been somewhat of a fear of going into these markets. It just doesn't make sense. There have been some absolutely magnificent profits made overseas. There continue to be substantial returns available in the overseas markets, and they are no riskier than sitting with Jimmy Carter.

We run into this problem of timing in these markets constantly. Is this the right time, though, to get into foreign markets? It's the same as any other market place. When the market goes bad in the United States, everybody doesn't get out of the U.S. market. You may cut your investments in equity at a given time. You may cut your investments in fixed income at a given time, but you don't get out. What we would suggest to you is that this is the appropriate way to think of foreign investments also. Not that this is the time to get in or get out, but that it is part of your regular investment program and should be weighted according to its attractiveness at any given time.

These are the two reasons that you get into an international investment program. Interestingly, these are the same reasons you get into any investment program. And the validity of international investments holds true. It provides substantial risk reduction. And by risk reduction we're talking about volatility. You can diminish the volatility of your overall portfolio through the incorporation of foreign securities. Return improvement. We have that listed as the second reason for going into international investments. I tend to think at times that it might justify itself. But these investments certainly can improve the returns of U.S. portfolios.

As a quick example, if you had invested approximately 25% of your assets in foreign securities over that period, you would have increased your return by 50%. You can improve the return on your portfolio. In looking at the control of risk, the significant function is correlation of markets, the tendency of the markets either to follow each other in their up and down cycles, or not to. Basically, the U.S. and Canadian markets track each other. The correlation between those markets is very, very high. Therefore, incorporating Canadian securities into a U.S. portfolio or U.S. securities into a Canada portfolio probably will diminish risks not a whit. The correlation factor between the two markets is about 0.75.

However, if you incorporate the Japanese market, which tends to move in a direction somewhat opposite that of the United States market, the effect is to dampen the volatility or to moderate the risk. In any given foreign market you have a standard deviation. I hate to get into quantitative terminology because I don't really understand it. But any foreign market can have a standard deviation or a fluctuation greater than that of the United States. But it's by putting these markets together that you dampen the overall volatility. It's by using the low and negative correlations that you have substantial impact in dampening the volatility of an overall portfolio. The Canadian market and the United States market have a very high correlation factor, about 0.75. However, other major markets such as the United Kingdom, Germany, and Japan, have very low correlations with the U.S. market, indicating that those markets do not move in lock step with the U.S. market place. Interestingly, I think, Singapore and Hong Kong which have been two of the greatest growth markets over the last five years, returning between 40% and 80% per year, have very low correlations. Gold has a negative correlation. So the incorporation of these assets will indeed dampen the volatility of your portfolio, and if your function is to control risk, you do it by incorporating foreign equities. We have tried to find a study which doesn't prove this and we haven't found any. That doesn't mean it isn't out there, it just means that through our selective looking we haven't found one. But we think we've found every

major study done with the volatility factor. These studies covered various time periods and various levels of incorporation of foreign securities. One factor comes through all of these. Between 30% and 60% of risk is eliminated, 30% to 60% of volatility is eliminated, through the incorporation of a basket of foreign currencies and foreign securities.

We therefore have seen that you indeed can control risk or volatility, through the use of foreign securities. There is another side to this equation though. Is it worthwhile on the return side? Well, it has been.

If we look at compound annual rates of return for the 10-year period 1969 to 1979 it shows that the Japanese market and the Swiss market have done quite nicely. Also, the Netherlands, Germany, and France did well. Everyone, except Australia, did better than the United States during that period, and there are some fairly handsome pictures there. Over the most recent five-year period, the United States seems to retain *its* rightful place in the market, somewhere near the bottom. You also begin to see the re-export markets of Singapore and Hong Kong becoming financial centers for mainland China and moving towards the fore. The returns can be somewhat staggering. Singapore had a return of close to 40% per year over this period. If at the same time you can dampen the volatility in a portfolio, that seems to be a fairly attractive investment.

Canada thus far this year I believe is up 25% or 28%, and the Canadian market has done better than the U.S. market for the period. And Canada has been a reasonable investment in terms of return, but it is of no use to a U.S. investor in terms of risk reduction.

There is a question we run into constantly. Doesn't foreign return really represent currency, because when you make an international investment decision, you're not only buying securities, you're also buying currency? The reality of this is kind of interesting. If we look at five-year figures for 1974-1979, I think they tend to show that the returns available overseas are not primarily because of the currency. Now this depends upon the time frame that you look at it. I do have data for longer periods of time, 10 to 20 years. On those charts, there's no question that currency played a major role in return, especially in places like Switzerland where it continues to play a major function, where there is basically no stock market, there's only a franc.

The interesting thing is that in 1971 we went to free floating currencies. Between 1971 and the recession of 1974-1975, the U.S. dollar took a severe beating. What it probably did, rather than take a beating, was to find *its* true level. Having done that in the period from 1974-1975 to 1979, we found that the relative changes in currencies have not been as great as they were in 1971-1975. So the currency seems to be playing a lesser role than it did prior to free floating currency exchange rates. And we're now finding interesting things like Singapore, with *its* tremendous growth factor, where currencies had no role whatsoever. The rates of exchange between Singapore and the United States are flat over a five year period.

One of the things we're trying to do is examine factors which have caused returns to be positive overseas vis-a-vis the United States. In doing this, I talked from a U.S. point of view as opposed to a Canadian point of view. In many instances the case being made is basically the same because of the high correlation between the two markets.

A study was done which looked at exchange rate differences versus the dollar, and inflation differences versus the dollar. Basically, what the study shows is that those countries who have lower rates of inflation than the United States tend to have positive exchange rates versus the dollar. So that currency in the return factor seemingly will be positive overseas so long as their inflation rates are lower than ours.

There are countries overseas currently whose inflation rates either approximate or are slightly lower than ours. Mainly, the economies overseas have much, much lower inflation rates. As an example, the Swiss have a relatively flat situation. The Germans have about a 5% inflation rate and the Japanese about 8%. There seems to be a fair justification for believing that as long as inflation rates are better controlled in foreign economies than here, that the dollar will be under-performing foreign currencies. The reason for this is that many of those countries went through incredible inflationary spirals, like Germany during the 1930's. They learned that inflation is their number one enemy and as a result, they react immediately to inflation. Other countries like Britain and the United States, tend to think unemployment is their major problem and react to that. This tends to increase the inflationary spiral, and we don't seem to handle inflation that well.

Having looked at the currency, we then tried to determine where the actual market returns are coming from. We looked at market return versus GNP growth. Again we found a linear relationship and concluded that those economies with a greater rate of GNP growth have greater market returns. GNP growth in the United States has been somewhat embarrassing and I haven't seen anybody who is forecasting that it will be substantially better next year than it was this year. I think certainly over the next few years we'll see better market returns in economies other than the United States.

Again, if you look at currency, if you look at inflation, if you look at GNP growth and market returns, I think that you will see that the overseas markets remain fairly attractive.

The following questions are often raised. "Isn't the U.S. an undervalued market versus foreign markets which have gone through their greatest periods of growth? Aren't the foreign markets now the overvalued markets and shouldn't the U.S. therefore be a more attractive investment vehicle?" Every study we've done over any period of time comes out basically the same. We try to do price/earnings ratios, but there's just no way to do those ratios overseas. You don't know what you've got. So we try to do price/cash earnings ratios, which are earnings with all depreciation thrown in. They're not the most reliable figures in the world but they give you some basis for comparison. The results always come out about the same. The U.S. is in the middle somewhere. So there are probably some more attractive markets overseas, and there are probably some less attractive markets overseas.

What I have tried to show is that by incorporating foreign equities in a U.S. portfolio or in a Canadian portfolio, and there are limitations in Canada on the percentage that you can include, you do have a substantial dampening effect on the volatility of the portfolio. On the return side of the equation, there are also some fairly handsome returns available overseas.

One of the fears that is expressed commonly is that there is great political risk in investing overseas. I think that part of that political risk is not there, and that's the currency factor. Furthermore, I can also state that none of those markets in which we're invested, and we're currently invested into 9 moving into 11 markets, has ever been closed to U.S. investment with the exception of Switzerland. And the Swiss market was reopened about a year and a half ago. Interestingly, while the Swiss market was closed to foreign investment, you could trade in Swiss securities in France and Italy I believe, and there was a 4% to 6% premium paid to holders in the trading process. So you certainly lost nothing. But with that exception, all the other markets have remained open since the 1940's, the end of the war. They are basically well regulated markets. In some cases the Japanese market is an exact duplication of the U.S. market except for one minor factor, perhaps major. The average trading day on the Tokyo Stock Exchange is 340 million shares and they are settled in a shorter settlement time frame than in the United States, and they are done with zero fails. There are no fails whatsoever in the Japanese system. Liquidity is growing in those markets so that the fear of not being able to get out at any time is basically unfounded in the big markets such as Japan, Great Britain and Germany. That tends to hold true in most of the other markets also. Again, they are well-regulated markets. There is no difficulty in trading. We do trade on a common basis overseas on an almost weekly basis now. We're placing trades overseas on a continuous basis.

It is the wholehearted belief of those of us who are actively engaged in these markets that the returns available, the ability to reduce risks, make it a very interesting market place.

MR. JAMES P. CROT:

GOLD

A. History:

1. From Biblical Times to the Second World War

The Chinese were early users of gold and silver as monetary instruments. One inch cubes of gold were traced back to the 11th century B.C. Apparently it was King Gyges of Lydia (of which Croesus was the last sovereign) who minted the first coin in 670 B.C. Before that time cattle was the accepted unit of value. A woman slave was worth four oxes. "Pecunia", latin for money, is derived from "pecus" cattle.

Gold's first use was jewelry and the first pieces can be traced to the Sumerians 4000 years ago. The metal was probably seen as a resemblance to the sun, whereas silver was thought to look like the moon. Gold has kept people fascinated ever since. It is mentioned on the second page of the bible (Genesis II, 10-12): Barbarians used it as a standard - later gold turned civilized nations into barbarians, like the Spaniards under Cortez in Central America. As you know, the USA abolished gold parity in 1933. Gold was before then worth \$20.67 per ounce and after the devaluation increased to \$35.

2. 1939 - 1980

During the Second World War gold markets were closed. Deals were made on the black market and coins often used to pay for passage out of occupied countries, very much like the boat people now in Vietnam.

1946 and 1947: France and Switzerland reopen official markets.

1954: London is back in business. Gold is quoted in US \$. Most of the world's production is cleared through London, usually at a premium over the official price of \$ 35/oz.

1960: Demand pushes gold to \$ 40/oz. Central Banks dislike the public's affection for gold and create a "gold pool" in order to stabilize the price. Its members are USA, Germany, U.K., France, Italy, Belgium and the Netherlands. Its immediate result was to push the price back to \$ 35. With increasing inflation, the price of gold moved up again and with the first devaluation of the Lst. the pool lacked metal and could not regulate the market anymore. It stopped its operations in March 1968. Most central banks kept their gold and the metal was de facto demonetized.

1968: Zurich takes immediately the relay from London and forms a gold pool fed this time by Swiss commercial banks. Zurich gradually outgrows London and is now the world's largest market, handling 80% of South Africa's production and most of the Soviet Union's output.

B. Monetary Role

Different gold standards were used in this century:

1. Gold Specie Standard was used by major countries until 1914. All deficits in the balance of payments had to be settled in gold.
2. Gold Exchange Standard was created in 1918 after the First World War. Its rules provided for currencies to be acceptable as monetary reserve besides gold. With the economic crisis and the Second World War most countries were forced to devalue and two thirds of all monetary gold reserves had been transferred to the United States.

The post-war years clearly proved that the economies could not grow properly with so much gold resting in Fort Knox with no indexation whatsoever. Finally, in 1971, President Nixon stopped the convertibility of gold into dollars or other monetary instruments. Gold was then worth about \$ 42. This was the official end of a long history of gold's role as a widely accepted standard to enforce exchange rules. In fact, it was not logical to value gold at a set price - even with inflation at lower rates than today. You were better off keeping \$ and buying Treasury Bills, than having gold in your vaults.

Very recently however (1979) - to prove that gold remains a yardstick - the European Monetary System - and the IMF thought of reintroducing gold.

This "back-door remonetization" allows, in the case of the European snake, member countries under certain conditions, to mobilize part of their gold reserves. The European Monetary System started in March 1979 with gold contributions by Central Banks of 2500 tons, it now holds about 2650 tons. Gold is therefore still of importance to monetary authorities. The strong increase in world trade over the past 20 years - compared to a slower growth in gold reserves - has given the impression that foreign exchange holdings, especially dollars, have superseded gold as the primary component of world reserves. Between 1976 and 1979 however nearly 80% of the growth in the real value of world reserves was attributable to the rise in the gold price. Gold is thus again the principle reserve asset, accounting for 56% of the total value of world reserves. Central banks are believed to hold one billion ounces (\$ 670 billions). In this context it may be noted that OPEC countries - mostly of the middle East - now hold bullion worth \$33 billion (at \$ 600/oz) against almost \$0 in 1973.

C. Supply and Demand

i. Supply

1979: 1765 tons against a maximum of about 2000 tons in 1963.

Non communist mine production : 962 tons

- South Africa	703
- Latin America	68
- Canada	49
- U.S.A.	28
- Other Africa	30
- Asia	32
- Oceania	42
- Europe	10
	<u>962</u>

Communist bloc	229
Net official sales (IMF + USA)	574
Total supply:	<u>1765 tons</u>

South Africa remains the largest producer of gold and makes up for three quarters of the non communist world mine output. It is estimated that the production will remain in the 700 tons/year until 1987 and then fall off gradually to half that amount. In South America, Brazil is the largest producer. Its sales doubled since 1971 and there will probably be even more dramatic increases, as more and more alluvial miners - the number is estimated at 20000 - 30000 already - will find their way to the jungle rivers. At least until the government takes over control, which may happen soon, Brazil looks for a production of 300 tons worth over \$ 6.5 billions at current prices.

Among the other producers, the USA and Canada sold less in 1979 than in 1978. It is however expected that with rising prices some old mines will be reactivated. China's output is guessed to be equivalent to that of the USA and Canada - around 30 to 60 tons. In Oceania gold is a by-product of copper mining in Australia whereas in Papua, New Guinea and the Philippines gold is also found in primary exploitations. Outside of the mentioned countries, Zimbabwe (ex Rhodesia), Ghana, the Dominican Republic and Colombia are increasing their output.

Sales from Communist countries:

The Soviet Union's sales are estimated at 229 tons for 1979 against 410 tons in 1978. Price seems to be the important factor as the Soviet Union probably only sells the amount needed to cover its foreign currency requirements. Very little activity has taken place in 1980.

Official Sales

The IMF and the USA sold 535 tons in 1978 against 574 the previous year. The last sale from the Treasury took place in November 1979. The IMF program started in 1976 and ended in May 1980 after the disposal of 1555 tons. One third of the initial holdings of 4655 was thus liquidated. The idea behind the scheme was to promote special Drawing Rights, which were to become the principal international reserve asset. No official sales are expected at this time. It is generally accepted that the USA will not come to the market in the near future, at least not with the idea to remove gold from playing any role in the international monetary system. Candidate Reagan even expressed ideas of having gold back as a monetary yardstick of some kind.

Conclusion

Over the long term it is difficult to evaluate the importance of new mines or the reactivation of old facilities, which become profitable with higher prices. The latter, by the way, will not lead automatically to a higher output as large producers may be induced to withhold a scarce commodity in order to realize higher profits. The importance of new discoveries may also change the supply figure. The last was announced at the end of August 1980 by Homestake which hopes to produce 1 million ounces from foothills north of San Francisco. Without dramatic new discoveries however, the supply of new gold will not be able to satisfy a rapidly increasing demand and may thus lead to higher prices.

2. Demand

Jewelry and investments remain the largest users of gold.

Carat jewelry absorbed 737 tons in 1979, a large drop from the 1000 tons in 1978. This reduction is of course due to higher prices, which affected sales in the first four months of 1980 even more (average price \$ 604/oz against \$ 308 in 1979 and \$ 200 in 1978). There now seems to be a certain saturation in the jewelry sector.

Official coins have a rising trend (1979: 290 tons - 46 tons in 1970). Beside the most popular Kruegerrand of one troy ounce (145 tons in 1979), Canada mints a one ounce Mapleleaf. Mexico and the Soviet Union also sell gold coins. The premium for these coins ranges between 2 and 8% over the market price for the metal.

Hoarding of gold coins and bullion is current in countries with a longstanding history of invasions and a high level of political instability. As soon as the situation becomes critical people have a reflex to look underground for protection. In Taiwan gold sales quadrupled between 1978 and 1979, after the recognition of China by the USA and the wars in South East Asia.

Next in importance are electronics (94 tons) and dentistry (87 tons), fake coins and medals follow with 33 tons, a fall of 34% compared to the 50 tons used in 1979. South Africa remains the largest mint.

Over the years the amount of gold used in dentistry has been reduced wherever possible, but there often is no substitute for gold in this field. Future demand by the electronic industry is difficult to evaluate. Broadly, gold is used for its electrical conductivity and non-corrosive properties in a variety of applications, notably in switches.

Net private bullion purchases are estimated at 450 tons in 1978 which is the difference between the supply of 1765 tons and the 1315 tons used for fabrication. Private investors usually keep part of their purchases in their home country and move the other part to "safe" places, such as e.g. Canada.

D. Price Fluctuations

The price of gold remained artificially set at \$ 35/oz until 1971, when President Nixon suspended the \$ / gold convertibility. Many natured events pushed the price at a rapid pace from the unrealistic level to cross the \$ 100 mark in 1973, \$ 200 in 1974 - in anticipation of American purchases after January 1, 1975. When this expectation did not materialize, the price dropped to \$ 103 in 1976 and since then steadily climbed with just short periods of set backs. Volatility became excessive at the end of 1979 when the invasion of Afghanistan and massive purchases in the Middle East pushed the price to \$ 850 in January 1980 with a plunge to \$ 474 in late March and a recovery to the current \$ 650 - 700 level.

E. Trading

The world's financial centers - with yet the notable exception of New York are also leading as gold markets: Zurich, London and Hong Kong and to a lesser extent Winnipeg, Tokyo, Singapore and Frankfurt permit gold trading almost around the clock.

Both the Zurich and London markets quote prices which have become established as benchmarks for the gold business everyday. Twice daily, at 10.30 a.m. and 3.00 p.m. a "fixing" takes place in London. It is the price for a transaction managed by the five members of the London gold market. The Zurich gold pool price is a market quotation with a bid and ask price made for trades between 9 a.m. and 4 p.m. every working day. Purchasers usually do not take physical delivery of gold bought in Zurich as Switzerland introduced a value added tax of 5.6% on January 1, 1980. Gold is delivered in customs deposits of the large banks or sent abroad.

New York and Chicago have emerged as trading centres for futures. They open before London's second fixing and take with Canadian markets the relay of Europe, before the awakening of Hongkong's 4 precious metals exchanges.

The unit of trading is a bar weighing approximately 400 troy ounces or 12.5 kg. A wide range of bars of other weights is available to meet customers' individual needs, notably one kilo (31.11 ounces) used in Zurich. The fineness ranges between 995.0 and 999.9 (fine gold content per troy ounce). Each bar is marked with the fineness and stamp of an acceptable assayer. Most banks worldwide provide excellent storage facilities for the safe-keeping of gold bars and coins in high security vaults. They are kept in allocated or unallocated accounts, the latter being the usual method.

Most markets quote "loco London", which means a price for London delivery notwithstanding the place of trading.

Using a bank with a worldwide network you may put in a limit order or deal off your own business hours with the executions being made somewhere in the world with delivery probable in London.

Besides the metal there are of course other ways to participate like certificates, options, futures and shares of gold mines, where one should look for high grade, lower cost and long life.

A very rewarding investment were bonds issued by the French government. The most recent one called "Giscard-Bond" is a 7% 1973-1988 indexed to the price of gold; it was issued at FF 1,000 in 1973 and is now worth FF 9,000.

F. Outlook for the Price of Gold

Accepting - an equilibrium in the supply and demand equation
 - the fact that Central Banks do not seem to be prepared to sell their gold holdings for the time being
 - that inflation is here to stay
 - that the overall political situation is unstable and will probably deteriorate,

one may conclude that gold will remain an attractive investment. For the last 10 years it provided long term investors with a rewarding appreciation and so in any currency. Over that period gold, despite hectic fluctuations proved to be one of the very few means of maintaining the real value of savings.

Any accurate forecast and a good timing to purchase or sell are however hazardous. Gold may be considered like an insurance. Nobody expects to die, get ill or be injured while underwriting a policy. Gold is at least, for a part of one's investments, a buffer in an overall climate of high inflation and widely fluctuating exchange rates. The world's deteriorating political situation is another strong advocate for gold. Most of the recent price movements can be traced to the lack or abundance of bad political news mixed with fear of less oil at higher prices. Figures on inflation are also relevant but probably to a lesser degree.

Starting in August of this year gold dropped from \$ 639 to \$ 610 between the 5th and the 12th. On the 13th riots were reported in South Africa and 3 blacks killed - gold closes at \$ 617. The next day, Prince Fahd declared a holy war against Israel: gold went up to \$ 626. Rumors of renewed sales of the US treasury - letter exchanged between Presidents Sadat and Begin brought gold down to \$ 612. On the 18th the strikes in Poland and their political implication pushed the metal in a first phase to \$ 634 and \$645, and in a second phase, after the removal of Prime Minister Girek, some rumors of Cuban troops in Afghanistan, higher prices for oil ... to \$ 651. On September 9th the price jumped to \$ 672 with rising anxieties for the OPEC meeting, which could have decided to include gold in a monetary basket to be used for oil purchases - this did not materialize.

The war between Iran and Iraq pushed the price to \$ 720 on September 23rd; and it seemed to be shortlived the quotes returned to the pre-war level of \$ 670 on September 28th.

Crisis buying will certainly stay with us, although it is hard to evaluate its importance. Much bad news has already induced insecure people to increase their holdings. They also take a profit on quieter periods. A slowdown in the inflation rate - actual or perceived - may lead to lower gold prices.

As you may realize by now, gold is not an investment like stocks or bonds. It is hard to analyze, has no earnings - unless you write options on it - it is not a participation in an industry, but it may certainly be accepted as a sound diversification of one's investments, as a very liquid instrument to store monetary value.

MR. JAMES H. GATELY: One good way of attempting to understand today's discussion of so-called alternate investments is to take a quick look at the historical development of pension fund investing. In its infancy 30 years ago the dominant asset in most pension funds was the long-term bond. By the late 1960's, the emphasis had switched to common stocks. However, bonds have failed to provide the desired stability of earning power and stocks have been disappointing in terms of their expected total return. The result has been a trend toward the use of other assets--let's call it diversification--and away from the historic concentration on bonds and stocks.

Along the way, the development of Modern Portfolio Theory has been helpful in **emphasizing that the most conservative portfolio is the so-called "market" portfolio--and not one with the highest portion of its assets committed to a fixed nominal return.** At Prudential we have organized ourselves to deal on a continuing basis with the apparent complexity which results when there is a need to deal with many asset categories. The day when the establishment of a simple stock/bond ratio masqueraded for a long-term asset planning policy appears to be gone forever.

As with most management problems, the establishment of a framework for analysis is essential if we are to set forth an asset allocation plan. In setting up our framework at Prudential we have borrowed heavily for several of the notions which have become associated with the term Modern Portfolio Theory--or MPT. However, because much of the research in MPT has been devoted to common stocks, important differences exist.

The first issue to be confronted in the construction of the analytical framework is the identification of what constitutes the total availability of investment opportunities. In other words, what is the market? Unlike common stocks, where the total market value of all tradeable issues is defined as the market, in the broader context of asset allocation, the definition of the market is a function of the creativity of the investment manager. And from my perspective I can say only, the wider array of choices the better.

Let me illustrate my point by showing the advantage of moving from a simple two-asset world to one of four assets, including short term investments and real estate. Chart 1 identifies the array of portfolios available to the two dimensional investment manager. For this purpose I have chosen a set of long-run return and risk assumptions within the context of a 5% inflation rate. To avoid a heated **argument, I should indicate that the importance of the central point does not change when the inflation assumption is altered.**

For bonds the total return **assumption** is 8% and for stocks 13%. For bonds the yearly volatility is shown as 9% standard deviation and for stock 22% standard deviation. Because stock and bond returns are not perfectly correlated, the portfolio alternatives do not display a straight line.

Now see what happens when I add a third asset category--short term investments--as shown here in Chart 2. While there has been no change in the riskier portfolio choices, those attracted to portfolios on the lower end of the risk spectrum have a superior array of alternatives.

When I add a fourth category of assets such as commercial and industrial real estate, under the long-run assumptions we employ, the entire range of results improves. (Chart 3)

The addition of other categories to my list of alternatives enhances the choices available still more. All I need to work with are three assumptions for each asset category--just as I did with stocks and bonds. They are: (1) long run expected returns; (2) yearly volatility; and (3) the covariance of the returns with those of the other asset groups.

This is not to suggest that the forecasting job is simple nor is it to imply that these forecasts are not subject to error. However, when carefully constructed, the use of this multi-asset framework can provide a starting point in the development of a long run plan for any pension fund. Depending on the risk orientation of a given client, a long run "normal" portfolio can be selected. This process--also far from simple--can be helped along by the use of probability analysis. That is, since we have quantified our assumptions about each separate investment category, the portfolio alternatives which result can be utilized to project the probability of earning a specified rate of return over different time horizon.

Is this the end? Quite the contrary, it's only the beginning. What we have done up to now is to identify only the long term "normal" portfolio, comprised of given percentages of stocks, bonds, real estate, precious metals, and any other category that we are creative enough to dream up. For while it is possible to simply remain fully invested at the targeted percentages, at Prudential we believe that further long run value can be gained by shifting deliberately to over or under "normal"--just as common stock managers do with respect to the positioning of their portfolios relative to the S&P 500 Index.

How much flexibility should there be? This depends on the confidence one has in his ability to forecast shorter run investment opportunities--and of course like everything else in this business is subject to endless hours of debate. And while I'd be willing to get into that subject later at the **workshop, let me conclude my comments in this way.**

First, the days of the simple two asset world of stocks and bonds appear to be over. Investment managers and institutions who are hypnotized by the past will suffer. Those who are committed to innovation and flexibility will survive and prosper.

Second, a long range framework is necessary to provide order and control to the investment planning process. Certain components of Modern Portfolio Theory can be very helpful in helping to quantify some of these concepts.

Finally, shorter term investment decisions continue to be required. Logic suggests that those investment professionals with the broadest experience and perspective will be in the best position to make those difficult choices.

_____ GOLD RESERVES VALUED AT \$ 600 PER OUNCE

----- GOLD/ GNP RATIO (%)

USA

\$ 158.8 bn

6.2

WEST GERMANY

\$ 71.4 bn

8.6

FRANCE

\$ 61.4 bn

9.5

ITALY

\$ 50.0 bn

13.3

SWITZERLAND

\$ 49.9 bn

48.2

NETHERLANDS

\$ 32.9 bn

20.0

JAPAN

\$ 14.5 bn

1.3

UK

\$ 13.7 bn

2.7

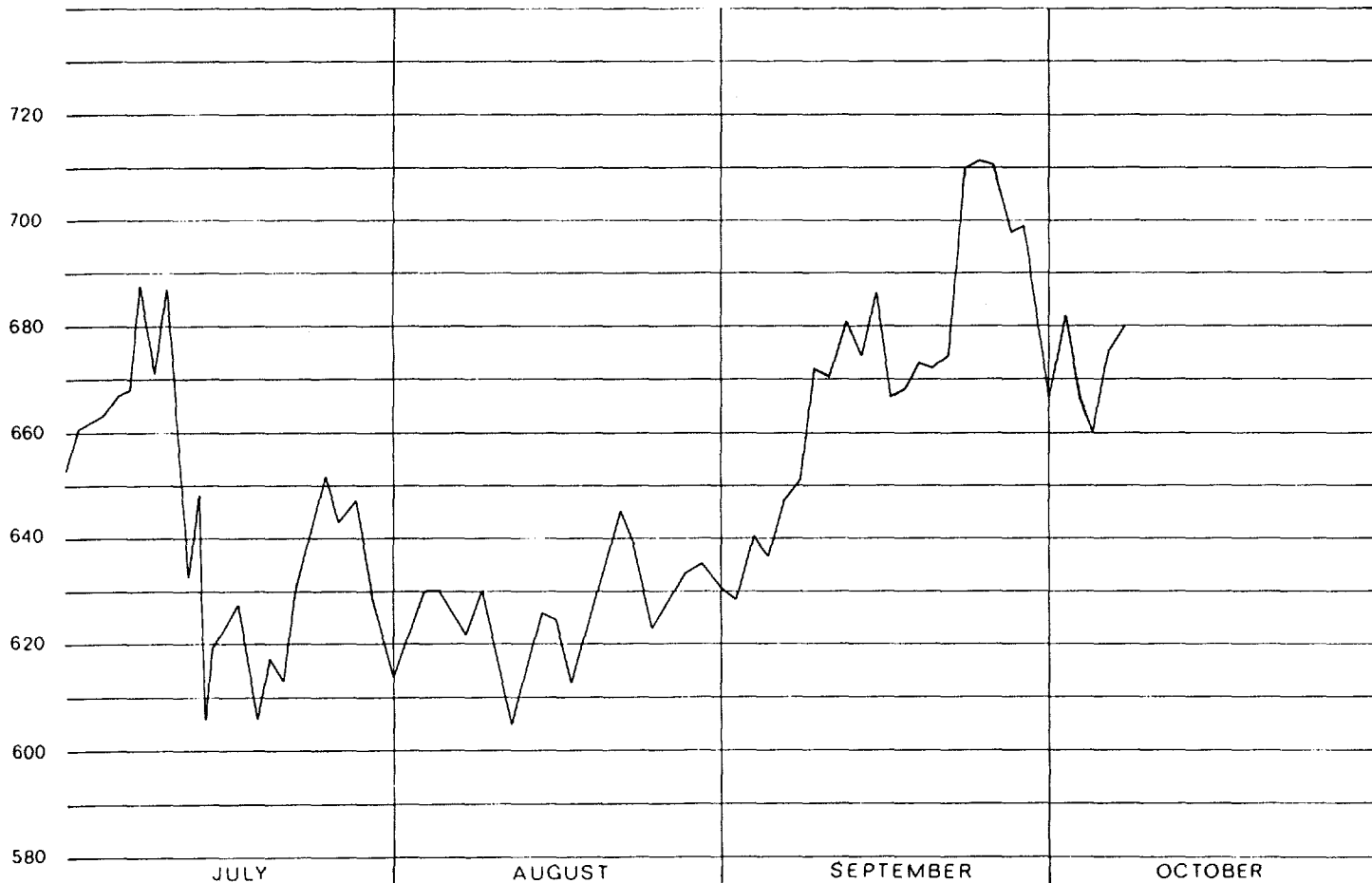
CANADA

\$ 13.0 bn

5.3

\$
per ounce

GOLD PERFORMANCE ON THE SPOT MARKET



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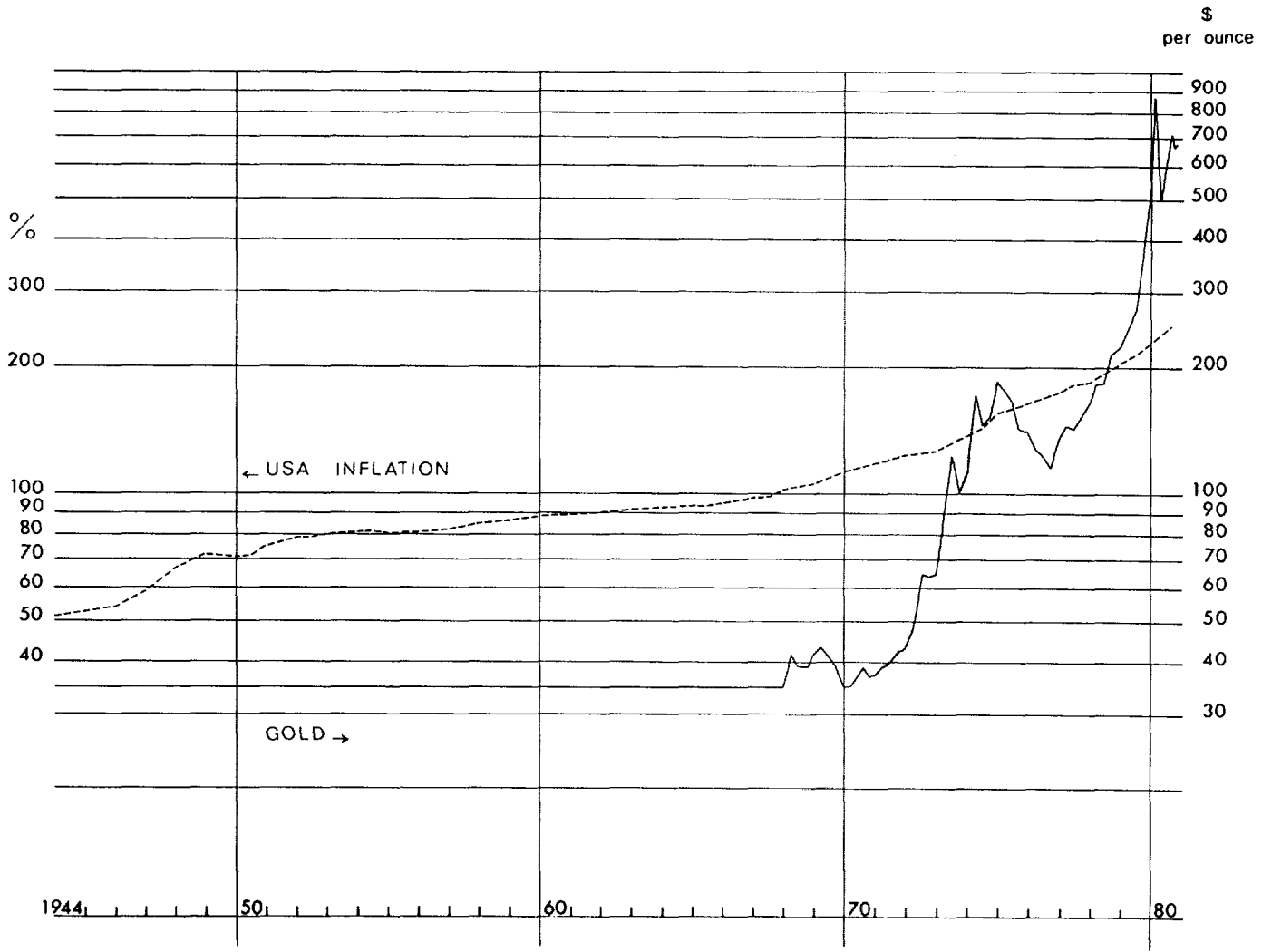


Chart I
Two Asset Model

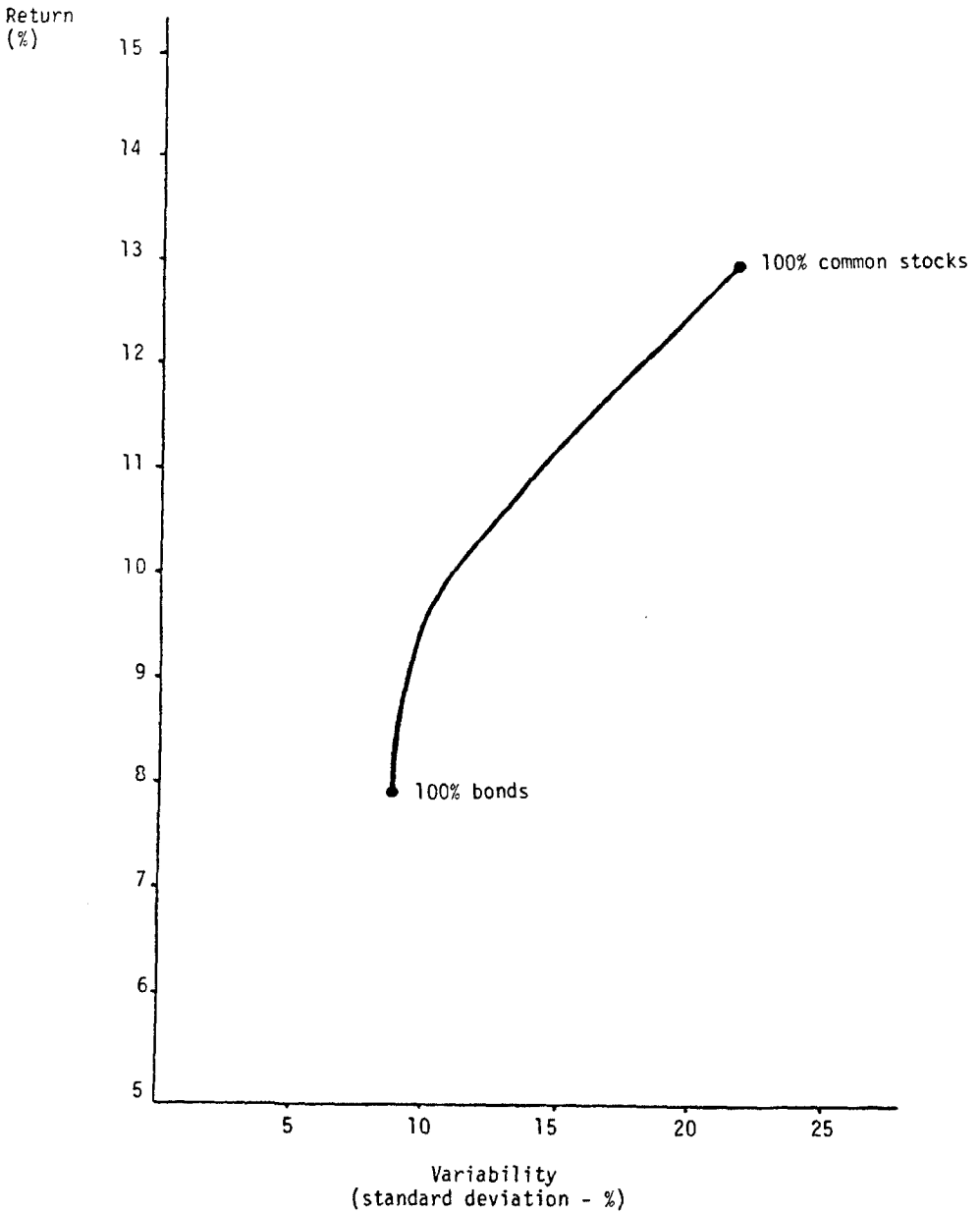
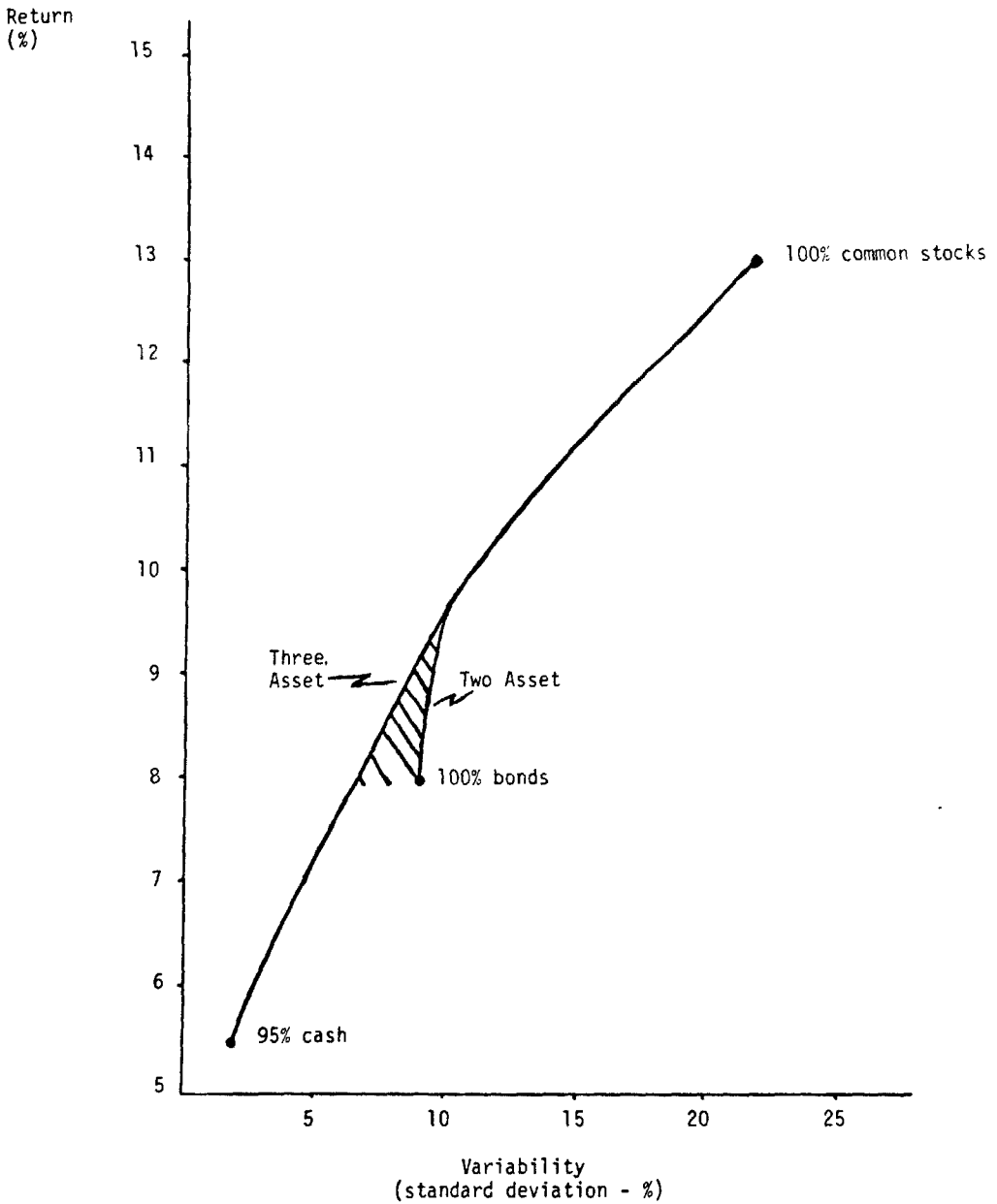


Chart II
Three Asset Model



Area of increased return per unit of risk

Chart III
Four Asset Model

