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International Investment and the Prudent Investor Rule: The Trustee's Duty to Consider International Investment Vehicles

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INTERNATIONAL INVESTMENT AND THE PRUDENT INVESTOR RULE: THE TRUSTEE'S DUTY TO CONSIDER INTERNATIONAL INVESTMENT VEHICLES

*Stephen M. Penner**

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INTRODUCTION

The trust is the most important and versatile tool in modern property management. When a trust is created, a trustee will either be named in the trust document or be appointed by a court.¹ The primary role of the trustee is to manage the funds of the trust. In managing those funds, the trustee must not only safeguard them from loss of value² but must also invest the assets so as to produce income.³ A trustee cannot simply invest the assets of the trust in any way he pleases, however. He is under a specific fiduciary duty to invest the assets of the trust in the same manner as a prudent investor would.⁴ The common law fashioned the Prudent Investor Rule over 150 years ago,⁵ and it is still the yardstick by which to measure a trustee's management of trust assets. To be sure, there have been modifications to the Rule in the century and a half since it was created,⁶ but even in its most recent form, the Rule imposes a duty upon the trustee to act as a prudent investor.

What constitutes a prudent investor has, of course, changed over time. Financial theory has made great gains in understanding the workings of the world's capital markets. The most modern theories rely on computer models and extensive calculations to determine the proper allocation of an investor's wealth. As advancements alter the behavior of a prudent investor, the standard of care imposed on the trustee changes.

One of the most important developments in investment strategy has been the internationalization of the world's capital markets.⁷ Modern U.S. investors have gained unprecedented access to investment opportunities across the globe, including opportunities to invest in stock of

1. RESTATEMENT (SECOND) OF TRUSTS § 108 (1959) [hereinafter REST. 2d]; see also 1 AUSTIN W. SCOTT, SCOTT ON TRUSTS §§ 31-35 (William F. Fratcher ed., 4th ed. 1987) [hereinafter SCOTT ON TRUSTS].

2. REST. 2d, *supra* note 1, § 176; 2A SCOTT ON TRUSTS, *supra* note 1, § 176.

3. RESTATEMENT (THIRD) OF TRUSTS (PRUDENT INVESTOR RULE) § 181 (1992) [hereinafter REST. 3d]; 2A SCOTT ON TRUSTS, *supra* note 1, § 181.

4. REST. 3d, *supra* note 3, § 227; see also UNIF. PROBATE CODE § 7-302 (1993); 2A SCOTT ON TRUSTS, *supra* note 1, § 174.

5. The Massachusetts Supreme Judicial Court crafted the rule in *Harvard College v. Amory*, 26 Mass (9 Pick.) 446 (1830). The case is discussed more fully *infra*.

6. REST. 3d., *supra* note 3, at 3-4.

7. FRANK J. FABOZZI & FRANCO MODIGLIANI, CAPITAL MARKETS: INSTITUTIONS AND INSTRUMENTS 690-93 (1992).

foreign corporations traded abroad and mutual funds of foreign assets marketed by U.S. brokerage firms. Just as prudent investors take these new international investment opportunities into account, so too must the trustee. This note will show that the Prudent Investor Rule imposes a duty on trustees to consider international investment opportunities when investing the wealth of a trust.

Part I of this note will begin with a background of trust and trustees, focusing on the historical development of the trust and the present role of the trustee. Part II presents the Prudent Investor Rule. The problems in trust management which lead to the necessity of the Rule will be explored, as will the evolution of the Rule up to the recent adoption by the American Law Institute of the Third Restatement of Trusts, which is devoted solely to the Prudent Investor Rule. In Part III, the various investment opportunities available to the modern investor will be presented, first generally, then focusing on international investment vehicles. Part IV is devoted to an explanation of modern portfolio theory, the basis of all modern thinking about investment and the impetus to the revision of the Second Restatement of Trusts. In Part V, the various ideas already presented will be brought together to prove the duty of the modern trustee to consider international investment opportunities when managing the wealth of the trust. The note will conclude with a review of the argument and some closing thoughts.

I. TRUSTS AND TRUSTEES

A. *The Nature of a Trust*

The trust has been called by one eminent commentator "the greatest and most distinctive achievement" of the Anglo-American legal system.⁸ The success of the trust is apparent from the fact that it is one of the few common law creations to lead to the development of similar concepts in civil law countries.⁹ The trust arose out of the English feudal practice of "uses," wherein *A* held property "to the use of" *B*. *A* held legal title enforceable by the common law courts, and *B* held equitable title enforceable, even against *A*, by the chancery courts.¹⁰ This arrangement circumvented the common law prohibition on wills and eventually

8. Frederic W. Maitland, *The Unincorporate Body*, in 3 FREDERIC W. MAITLAND, COLLECTED PAPERS 271, 272 (1911).

9. For an interesting perspective on the influence of the trust on the civil law system, see Ignacio A. Martinez, *Trust and the Civil Law*, 42 LA. L. REV. 1709 (1982).

10. 1 SCOTT ON TRUSTS, *supra* note 1, § 1.4; FREDERIC W. MAITLAND, EQUITY 23-42 (2d ed. rev. 1936) [hereinafter MAITLAND, EQUITY]; 2 SIR FREDERICK POLLACK & FREDERIC W. MAITLAND, THE HISTORY OF ENGLISH LAW 229-30 (2d ed. 1898).

led to a decline in feudal revenues for the monarchy.¹¹ King Henry VIII, unhappy with this state of affairs, forced Parliament to enact the Statute of Uses in 1536.¹² The statute purported to convert (or "execute") all uses into freehold estates, thereby vesting both legal and equitable title in *B*. *B* could thereafter be taxed on the property.¹³ The common law courts, however, interpreted the statute quite narrowly. Those courts held that the statute did not apply to a use wherein the "feoffee of uses" (*A* in the above example) had "active duties" to manage the property, not simply the duty to hold the property and deliver it to *B*.¹⁴ In addition, the courts held that the statute only executed one use, so that a devise or sale "to *A* to the use of *B* to the use of *C*" would result in *B*'s having legal title and *C*'s having equitable title.¹⁵ Finally, the statute did not apply to personal property (chattels).¹⁶ These interpretations allowed the division of legal and beneficial ownership to continue well beyond 1536, and when feudal tenure and all of its incidents were finally abolished in 1660, the modern trust arose.¹⁷

Today the trust has a myriad of uses, all of which still revolve around the management of property for the benefit of another. Revocable inter-vivos trusts act as substitutes for wills, allowing a testator to transfer property to a beneficiary without going through the often expensive procedure of probate.¹⁸ Irrevocable inter-vivos trusts also transfer property to others, and they can have significant estate and gift tax advantages under federal tax law over testamentary dispositions.¹⁹ In addition, testamentary trusts from one spouse to the other are usually structured so as to take advantage of the estate tax marital deduction.²⁰ Trusts can also be established to support family members, especially if

11. A good discussion of these effects of uses is found in A.W.B. SIMPSON, *A HISTORY OF THE LAND LAW* 182-84 (2d ed. 1986). See also J.H. BAKER, *AN INTRODUCTION TO ENGLISH LEGAL HISTORY* 288-89 (3d ed. 1990); 1 SCOTT ON TRUSTS, *supra* note 1, § 1.4.

12. 1 SCOTT ON TRUSTS, *supra* note 1, § 1.5; MAITLAND, *EQUITY*, *supra* note 10, at 34.

13. See MAITLAND, *EQUITY*, *supra* note 10, at 34-35.

14. Brook's New Cases, 73 Eng. Rep. 888 (1651).

15. Although the doctrine prohibiting a "use on a use" has often been attributed to the very early Tyrrel's Case, 73 Eng. Rep. 336 (1557), the doctrine was not actually formulated until *Sambach v. Dalston*, 21 Eng. Rep. 164 (1634). For a discussion of the history of the doctrine, see JAMES B. AMES, *LECTURES ON LEGAL HISTORY* 243-47 (1913).

16. MAITLAND, *EQUITY*, *supra* note 10, at 37.

17. 1 SCOTT ON TRUSTS, *supra* note 1, § 1.6; BAKER, *supra* note 11, at 294.

18. See John Paul Parks, *Varied Duties Face the Successor Trustee of a Revocable Trust*, 19 EST. PLAN. 203 (1992).

19. See DAVID WESTFALL & GEORGE P. MAIR, *ESTATE PLANNING LAW AND TAXATION* ¶ 9.07 (3d ed. 1994).

20. *Id.* ¶¶ 16.01-16.02.

the settlor worries that the assets of the trust might otherwise be squandered. Trusts, then, are an indispensable part of modern property arrangements.

In order for a trust to exist, there must be four elements: a specific asset or assets to be put into trust (sometimes known as the trust *res*), a trustee, identifiable beneficiaries, and a manifested intent to create a trust.²¹ Any legally enforceable property interest can be the *res* of a trust.²² A valid trust can contain unborn or presently unascertained beneficiaries, as in the case of a trust in favor of "grandchildren,"²³ but a trust in favor of a class which is incapable of definite ascertainment will fail.²⁴ Also, if the beneficiaries and the trustees are identical, the trust will fail, and the beneficiaries will have outright title to the trust's assets.²⁵ Aside from these basic requirements, however, and the requirements of the Statute of Frauds if the *res* is real property,²⁶ the law imposes no additional formalities on the creation of a trust.²⁷ Practical considerations do abound, however. Chief among these are usually tax considerations, mentioned above. In addition, family considerations can come into play, where, for example, the settlor wishes to create a trust in favor of her children and plans to appoint one of the children as trustee. While this can be done, there may be issues of familial harmony that the settlor should consider. Additionally, in the case of irrevocable trusts, the settlor must be certain she is willing to surrender all control of the trust assets.

It should now be clear that trusts play, and have long played, a central role in the management of property. It may be less clear, however, that in order for any trust to serve its purpose, whether that purpose be support of a child or transfer of property with minimal estate and gift taxes, the trustee must discharge his duties competently and responsibly.

21. REST. 2d, *supra* note 1, §§ 23 (Requirement of Manifestation of Intention), 66 (Trust Property and Beneficiary), 74 (The Necessity of Trust Property), and 101 (Failure of Trustee after Trust Created); 1 SCOTT ON TRUSTS, *supra* note 1, § 23.

22. See generally REST. 2d, *supra* note 1, §§ 75-86 (enumerating property interests which may be held in trust).

23. *Id.* § 120 and cmts.

24. *Id.* § 112.

25. *Id.* §§ 31, 99.

26. *Id.* § 40.

27. If the trust is testamentary (created by a will or other testamentary document), then the trust must also comply with the formalities of the Statute of Wills. *Id.* § 53.

B. *The Role of the Trustee*

Almost any person can be a trustee.²⁸ A settlor can name herself, her best friend, or even a corporation.²⁹ Perhaps the only restriction is that a settlor cannot name all the beneficiaries of the trust as the exclusive trustees.³⁰ Even this is not so much a limitation on the naming of a trustee as it is on the establishment of the trust. If the settlor names the beneficiary as trustee, the law will refuse to recognize any trust whatsoever: legal and beneficial title will "merge" in the one person, who will hold the trust's assets outright. Such merger will of course not occur if there are additional beneficiaries who are not also named trustee, or vice versa.³¹

A person becomes a trustee simply by being named trustee by the settlor. The named trustee need not even know he has been named.³² The formation of most trusts is evidenced in writing (although it need not be), thereby making it clear who is named trustee. A person named as trustee can disclaim the trust and thereby refuse to accept his role as trustee.³³ However, once a person has accepted this role, he may resign only in accordance with the terms of the trust, with the consent of the beneficiaries, or with the permission of the appropriate court.³⁴ Generally, if a trustee dies, his status as trustee (holding the legal title in the trust assets) is fully descendible and devisable.³⁵ Some states have statutorily altered this rule, however, providing that the legal title to the trust passes to a court.³⁶ If there is more than one trustee, then generally the consent of each co-trustee is required to exercise the powers of the trustees,³⁷ although this rule is less strict in the case of charitable trusts.³⁸ Finally, there is a maxim that "a trust will not fail for want of a trustee." If for any reason, such as disclaimer, there is no trustee, the court will appoint one.³⁹

28. *Id.* § 89 and cmts.

29. *Id.* §§ 89-100 (enumerating allowable trustees).

30. *Id.* §§ 31, 99.

31. *Id.* § 99.

32. *Id.* § 35; *see also* *Adams v. Adams*, 88 U.S. (21 Wall.) 185 (1874).

33. *REST. 2d, supra* note 1, § 102.

34. *Id.* § 106.

35. *Id.* §§ 104-05. *But cf.* § 103 (regarding multiple trustees).

36. *See, e.g.,* N.Y. ESTATES, POWERS & TRUSTS LAW § 7-2.3.

37. *REST. 2d, supra* note 1, § 194.

38. *Id.* § 383.

39. *Id.* § 101; 1 SCOTT ON TRUSTS, *supra* note 1, § 35.

The primary role of the trustee is to administer the trust for the benefit of the beneficiaries.⁴⁰ The trustee also has a duty to keep the assets in accordance with the terms of the trust.⁴¹ Most trusts spell out the powers of a trustee. Some are quite specific, enumerating the circumstances under which, for example, the principal of the trust may be invaded and given over to the beneficiaries. Others are less specific, perhaps only stating that the property should be held "for the benefit of A." In any case, the powers of the trustee are limited by the terms of the trust, and the trustee must carry out his duties in the interest of the beneficiaries. Unlike some other fiduciary relationships, however, the trustee is entitled to payment for his services from the earnings of the trust.⁴² This payment is usually warranted, however, given the special expertise which most trustees bring to the management of a trust.

The trustee has various fiduciary duties which can entail many discrete activities. He may be required to pay out the income or the principal of the trust to the beneficiaries. He may be required to defend the assets of the trust against the beneficiaries if they seek some object contrary to the terms of the trust. The trustee's most basic duty, however, is the competent management of the trust property.⁴³ Most trusts are funded by gifts of financial assets or other valuable assets which can be converted into financial assets. In many cases, the beneficiaries, whether they be grandchildren of the settlor or the settlor's alma mater, receive only the "income" of the trust. The trustee is responsible for investing the assets of the trust so that the trust will earn income.⁴⁴ Without adequate investment, many trusts would earn insufficient income to carry out the wishes of the settlor. Therefore, before a trustee can even begin to worry about disbursement of the income or principal of the trust to the beneficiaries, he must worry about investing the assets of the trusts.

The trustee, of course, does not have free reign to invest in any enterprise he thinks might be profitable. The trustee's actions in investing the assets of the trust are governed by a legal standard known as the Prudent Investor Rule, to which this note will now turn.

40. REST. 2d, *supra* note 1, § 169.

41. *Id.* § 164. *But see* §§ 165-68 (relating to public policy and other exceptions).

42. *Id.* §§ 24-43.

43. REST. 3d, *supra* note 3, §§ 227-29; REST. 2d, *supra* note 1, § 169.

44. REST. 3d, *supra* note 3, § 181.

II. THE PRUDENT INVESTOR RULE

A. *The Problem: Poor Trust Management*

In an ideal world, all trustees would discharge their duties efficiently, competently, honestly, and responsibly. Unfortunately, ours is not an ideal world, and all too often trustees fail to discharge their duties properly. This failure can take many forms, from incompetence to sloth to dishonesty. In order to understand the Prudent Investor Rule, it is important to understand the impetus for its development. Accordingly, this section surveys how trustees can violate their fiduciary duties and what results can occur.

Perhaps the most common mistake of the trustee is to squander the trust assets. This can result from any number of mistakes or incompetencies by the trustee. To begin with, not all trustees are professionals. While many people set up trusts with trust companies or trust departments, it is, as mentioned above, possible to name almost anyone as trustee. A lay trustee may simply not have the financial knowledge to invest the trust assets wisely. As a result, the assets may not gain an adequate return or may even lose value.⁴⁵ Another problem can arise if a professional trustee is lazy or inattentive.⁴⁶ Although the results may be similar, this latter possibility raises ethical questions not implicated by the actions of lay trustees.⁴⁷ Yet another possibility is an overeager or overconfident trustee who believes he can safely manage the trust through unjustifiably high risk investments.⁴⁸ The recent debacle in Orange County may be an example of such overconfidence.⁴⁹ A related problem can arise if the trustee is overly cautious. In this case, the assets of the trust will not be squandered, but the income producing potential of the assets will not be adequately exploited, thereby favoring current beneficiaries over the holders of the remainder interests.⁵⁰

45. Often a lay trustee will either be paired with a professional trustee or will seek the advice of such a trustee. *See, e.g.*, Estate of Barbikas, 171 Cal. App. 2d 452, 341 P.2d 32 (1959).

46. *See, e.g.*, Pub. Serv. Co. of Colo. v. Chase Manhattan Bank, 577 F. Supp 92 (S.D.N.Y. 1983) (holding that a trustee bank which had failed adequately to monitor a property on which it held a multimillion dollar mortgage was liable to the beneficiaries for any loss to the trust value).

47. *See* MODEL RULES OF PROFESSIONAL CONDUCT Rule 1.3 and cmts. (1989).

48. The difference between "risk" and "unjustifiable risk" will be taken up in the section on modern portfolio theory *infra*.

49. *See* Susan Marquez Owen & Jodi Wilgoren, *Orange County in Bankruptcy*, L.A. TIMES, Jan. 10, 1995, at A8.

50. REST. 3d, *supra* note 3, §§ 181, 240; *see also* Willers v. Wettestad, 510 N.W.2d 676 (S.D. 1994) (imposing a "primary" duty on the trustee to preserve the trust assets).

A more troubling problem can occur with dishonest trustees. For example, trustees have been known to raid the corpus of the trust for their own benefit. Such theft is not only a violation of fiduciary duties but is of course also illegal. Unfortunately, such criminal activity happens more often than some might care to believe.⁵¹

A final problem can arise when the trustee has personal interests adverse to those of the beneficiaries or to the terms of the trust. The trustee may wish to invest the assets of the trust in an undertaking in which the trustee has a personal stake or which furthers a social or political goal. The trustee has a fiduciary duty not to invest in such enterprises, even if they might otherwise be a prudent investment.⁵² If the trustee feels he would be unable to resist the temptation, he should disclaim the trust when named, or if the adverse interests manifest themselves after acceptance of the trusteeship, he should resign.⁵³ If the trustee should remain on as trustee, the beneficiaries might seek his removal.⁵⁴

In all of the above scenarios, the trustee could destroy, or substantially reduce, the value of the trust assets, thereby hurting the interests of the beneficiaries and any remaindermen and violating the terms of the trust. To help guide the unsure trustee, and perhaps also to attach civil liability to the dishonest or negligent trustee, the law has developed the Prudent Investor Rule to adjudge the quality of the trustee's management of the trust assets.

B. *The Legal Standard of Care: The Prudent Investor Rule*

The problems and cases outlined above should make clear that the possibility of trustee incompetence or dishonesty is real enough that the actions of the trustee need to be subject to some standard of care which will protect both the interests of the beneficiaries and the intentions of the settlor. Such a standard does exist and in its most recent form is known as the Prudent Investor Rule.

The standard was first crafted in the dicta of an early nineteenth century Massachusetts case.⁵⁵ In this 1830 case, the Massachusetts

51. For an example of criminal activities by a fiduciary, see *People v. Kronmeyer*, 189 Cal. App. 3d 314 (1987).

52. REST. 3d, *supra* note 3, §§ 170 cmts. l & q, 187 cmts. g & j; Op. Att'y Gen. No. 85-30 (Fla. 1985); 38 Op. Att'y Gen. 2017, 2031 (Ore. 1978). *But cf.* *Bd. of Trustees v. Mayor of Baltimore et al.*, 317 Md. 72, 562 A.2d 720 (1989) (upholding divestment ordinance requiring pension plan trustees to divest for political reasons).

53. In accordance with REST. 2d, *supra* note 1, § 106.

54. See REST. 2d, *supra* note 1, § 107.

55. *Harvard College v. Amory*, 26 Mass. (9 Pick.) at 446.

Supreme Judicial Court stated that, when managing the assets of a trust, trustees must "observe how men of prudence, discretion, and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested."⁵⁶ This rule reflected the idea that a trustee's role was not simply to invest the assets of a trust in order to generate income but also to do so prudently so as to conserve the value of the original assets.

Since this case, the standard has been adopted by courts and legislatures across the United States.⁵⁷ The standard has been fairly uniform for most of its life, and where it exists, it has replaced so-called "legal list" statutes, which as their name suggests, enumerate as a matter of law which investments are prudent and which are not.⁵⁸

Two problems developed, however. First, courts began to use prior decisions as precedent that a given investment could never be prudent.⁵⁹ Unique fact patterns led to a rigidity and narrowness which, it can be argued, the original rule was meant to avoid.

Second, recent developments in financial theory, particularly modern portfolio theory,⁶⁰ have uncovered some weaknesses in the original formulation of the Prudent Investor Rule and in how it has been interpreted by the courts.⁶¹ Modern portfolio theory, which will be explained much more fully below, is based on the tenet that the riskiness of an investment can never be ascertained in isolation but rather must be determined in relation to the entire portfolio of investments.⁶² This knowledge, which was developed only as recently as the 1950s,⁶³ was of course unavailable to the judges who had applied the prudent investor rule for the previous century. As financial experts began to understand and accept modern portfolio theory, many state legislatures responded by amending their "prudent man" statutes to reflect the new knowledge.⁶⁴

56. *Id.* at 461.

57. See REST. 3d, *supra* note 3, at 3 and § 227 cmt. k.

58. See, e.g., KY. REV. STAT. ANN. § 386.020 (Michie/Bobbs-Merrill 1984 & Supp. 1994).

59. *Id.*

60. The seminal works on modern portfolio theory are: Harry M. Markowitz, *Portfolio Selection*, 8 J. OF FIN. 77 (1952) [hereinafter Markowitz I], and HARRY M. MARKOWITZ, *PORTFOLIO SELECTION: EFFICIENT DIVERSIFICATION OF INVESTMENTS* (1959) [hereinafter MARKOWITZ II].

61. REST. 3d, *supra* note 3, at 4.

62. MARKOWITZ II, *supra* note 60, at 112-14.

63. See *id.*

64. The State of Washington was one of the first to do so in 1984. WASH. REV. CODE § 11.100.020 (1984) states:

Most recently, the legal scholars at the American Law Institute, who had also come to understand modern portfolio theory, undertook a revision of the Second Restatement of Trusts. The result was the Third Restatement of Trusts, adopted in 1993 and devoted solely to the new Prudent Investor Rule. The devotion of the entire Third Restatement of Trusts to the Prudent Investor Rule attests to the rule's central importance in modern trust law.

The Third Restatement of Trusts is structured as an amendment to the Second Restatement of Trusts. It begins with a brief introduction and then proceeds directly to Section 227, which embodies the Prudent Investor Rule. Section 227 states:

§ 227. General Standard of Prudent Investment

The trustee is under a duty to the beneficiaries to invest and manage the funds of the trust as a prudent investor would, in light of the purposes, terms, distribution requirements, and other circumstances of the trust.

- (a) This standard requires the exercise of reasonable care, skill, and caution, and is to be applied to investments not in isolation but in the context of the trust portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the trust.
- (b) In making and implementing investment decisions, the trustee has a duty to diversify the investments of the trust unless, under the circumstances, it is prudent not to do so.
- (c) In addition, the trustee must:
 - (1) conform to fundamental fiduciary duties of loyalty (§ 170) and impartiality (§183);
 - (2) act with prudence in deciding whether and how to delegate authority and in the selection and supervision of agents (§171); and
 - (3) incur only costs that are reasonable in amount and

-
- (1) A fiduciary is authorized to acquire and retain every kind of property. In . . . managing property for the benefit of another, a fiduciary, in determining the prudence of a particular investment, shall give due consideration to the role that the proposed investment or investment course of action plays within the overall portfolio of assets. In applying such total asset management approach, a fiduciary shall exercise the judgment and care under the circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds

appropriate to the investment responsibilities of the trusteeship (§ 188).

- (d) The trustee's duties under this Section are subject to the rule of § 228, dealing primarily with contrary investment provisions of a trust or statute.⁶⁵

This section is noteworthy in several respects. The most important of these is the recognition in subsection (a) that the trustee should evaluate investments "not in isolation but in the context of the trust portfolio and as a part of an overall investment strategy." This acknowledgement frees the trustee to pursue an overall investment strategy, in the context of which a given investment might appear quite prudent, even when it would appear unjustifiably risky if viewed in isolation.

The value of this new Prudent Investor Rule becomes even clearer when compared to the old rule which it superseded. Section 227 of the Second Restatement of Trusts stated:

§ 227. Investments Which a Trustee Can Properly Make

In making investments of trust funds the trustee is under a duty to the beneficiary

- (a) in the absence of provisions in the terms of the trust or of a statute otherwise providing, to make such investments and only such investments as a prudent man would make of his own property having in view the preservation of the estate and the amount and regularity of the income to be derived;
- (b) in the absence of provisions in the terms of the trust, to conform to the statutes, if any governing investments by trustees;
- (c) to conform to the terms of the trust, except as stated in §§ 165-168.⁶⁶

Note that the language of subsection (a) of the Second Restatement is reminiscent of that of the Massachusetts Supreme Judicial Court in Harvard College. The standard given by the Second Restatement did little to suggest that the various rigidities worked into the rule prior to adoption of the Second Restatement in 1959 should not be followed. The Third Restatement, on the other hand, gives a clearer standard and does so with an obvious intention to move away from the rigid and uninformed case law of the past.⁶⁷

65. REST. 3d, *supra* note 3, § 227.

66. REST. 2d, *supra* note 1, § 227.

67. REST. 3d, *supra* note 3, § 227.

Another significant development is the phrasing in subsection (b) that "the trustee has a duty to diversify the investments of the trust." The Second Restatement also recognized the importance of diversification; in Section 228, the Second Restatement provided that "the trustee is under a duty to the beneficiary to distribute the risk of loss by a reasonable diversification of investments, unless under the circumstances it is prudent not to do so."⁶⁸ This language was altered slightly when incorporated into Section 227(b) of the Third Restatement, however, which states simply that a trustee has a duty to diversify. The descriptive phrase "a duty to the beneficiary to distribute the risk of loss by a reasonable diversification" was replaced with simply "a duty to diversify." This change reflects the modern understanding that well diversified portfolios not only reduce risk of loss but in fact are always the optimal investment strategy.⁶⁹

The Prudent Investor Rule and its cousins at the state level are an attempt to update the legal standard of fiduciary care a trustee must follow when managing the assets of a trust. The original rule, while certainly a good tool initially, became rigid and outdated. The new standard incorporates modern understanding of risk and diversification and should lead to better administration of trusts. The Prudent Investor Rule is therefore the latest word on the legal state of affairs in trust administration.

This is, of course, only the beginning of the inquiry. On the other side of the coin are the concrete investment decisions which go into "invest[ing] and manag[ing] the funds of the trust as a prudent investor would."⁷⁰ It is self-evident that a trustee cannot conform to the Rule unless he knows how a prudent investor would invest those same assets. Therefore, this note now shifts the focus of its inquiry from the abstract legal standard of care to the substantive details of prudent investment.

III. INVESTMENT OPPORTUNITIES

The Prudent Investor Rule provides the standard of care for trustees when investing the wealth of a trust. Of course, a trustee does not simply invest all of the trust's wealth in a single stock. There are a myriad of different investment vehicles available to the investor, each with its own advantages and disadvantages. Investing prudently requires the trustee to choose the proper combination of investment vehicles which will lead to a maximization of the investment potential of the assets. The mechanics

68. REST. 2d, *supra* note 1, § 228.

69. The language "unless, under the circumstances, it is prudent not to do so" seems, in light of modern portfolio theory, to be little more than a historical retention.

70. REST. 3d, *supra* note 3, § 227.

of portfolio selection will be presented in the following section, but in order for a trustee to choose the proper combination of investment vehicles, he must first be familiar with all of the various investment vehicles available.

A. Types of Investment Vehicles, Generally

The modern investor is faced with an enormous variety of investment vehicles.⁷¹ This section will survey those investment vehicles, explaining what they are and where they come from. The list presented is by no means exhaustive but rather is meant to give the reader some sense of the variety of investment vehicles available to a modern investor. All investment vehicles can be grouped into three broad categories: equity vehicles, fixed income vehicles, and derivatives.

1. Equity Vehicles

Equity means ownership. Equity investment vehicles give the investor an ownership share in the assets of the equity issuer.⁷² Some examples of equity include stock and mutual funds.

Stock: Owning stock is tantamount to owning the physical assets of the corporation. The investor holds a fraction of the assets of the company equal to the proportion of the stock she owns relative to all the stock issued by that corporation. She also holds voting rights in the same proportion. Often the corporation will issue dividends, wherein excess profits are returned to the stockholders. Stock can either be common or preferred. Holders of preferred stock have no voting rights, but they receive dividends senior to holders of common stock.⁷³

Mutual funds: A mutual fund is a financial device, wherein a professional financial manager pools the buying power of a large group of investors to purchase a broad based portfolio of, for example, stocks or bonds. The investors then each own a share of that portfolio of stocks in proportion to their original investment in the "mutual fund" which purchased the portfolio. In practice, mutual funds rarely own just equity or just debt instruments; rather, the best mutual fund will hold a variety of instruments.⁷⁴

71. FABOZZI & MODIGLIANI, *supra* note 7, at 19.

72. *Id.* at 224.

73. *Id.* at 224-25.

74. *Id.* at 109-12.

An important feature of equity is its volatile nature: its return depends on the financial performance of the corporation issuing the stock or of the enterprise owned.⁷⁵

2. Fixed Income Vehicles

Fixed income vehicles are usually debt issued by the issuer to raise money.⁷⁶ The issuer, whether it is the U.S. government or General Motors, borrows money from the investor with the promise to pay back the money, plus interest. Fixed income vehicles are therefore aptly named: they provide a fixed income stream not directly tied to the performance of the body issuing them. Fixed income vehicles can be divided into two categories: short term and long term.

a. Short Term Fixed Income Vehicles

Short term fixed income vehicles include short term government debt, certificates of deposit, commercial paper, and money market funds.

Short Term Government Debt (Treasury Bills): The U.S. government borrows money by issuing debt. The debt instruments are of varying maturity, with the shortest maturity period being ninety days. Debt instruments with a maturity of less than one year are known as Treasury bills (T-bills). T-bills are issued at a discount from face value.⁷⁷

Certificates of Deposit (CDs): A certificate of deposit is an arrangement with a bank wherein an investor agrees to leave a given amount with the bank for a given amount of time, before which the funds may not be withdrawn. The investor receives a higher interest rate (and therefore higher return) on the funds as compared to a regular savings account.⁷⁸

Commercial Paper (CP): Commercial paper is short term debt issued by

75. *Id.* at 224.

76. Frank J. Fabozzi & Michael G. Ferri, *Features of Fixed Income Securities*, in THE HANDBOOK OF FIXED INCOME SECURITIES 10, 10-11 (Frank J. Fabozzi et al. eds., 3d ed. 1991).

77. FABOZZI & MODIGLIANI, *supra* note 7, at 412-15; Frank J. Fabozzi & T. Dessa Fabozzi, *Treasury and Stripped Treasury Securities*, in THE HANDBOOK OF FIXED INCOME SECURITIES, *supra* note 76, at 173, 173-88. "Face value" refers to the dollar value which the bond will pay out at maturity. It is issued at a discount because \$1000 in one year is worth less than \$1000 today.

78. Frank J. Fabozzi, *Commercial Paper, Medium-Term Notes, Banker's Acceptances, and CDs*, in THE HANDBOOK OF FIXED INCOME SECURITIES, *supra* note 76, at 223, 235-37; FABOZZI & MODIGLIANI, *supra* note 7, at 430-33.

a corporation. It is unsecured and is often paid off by issuing new commercial paper.⁷⁹

Money Market Funds: A money market fund is similar to a mutual fund, except that the assets purchased are all short term, highly liquid, and relatively low risk debt instruments.⁸⁰

b. Long Term Fixed Income Vehicles

Long term fixed income vehicles include long term government debt, municipal bonds, mortgage pools, and long term corporate debt.

Long Term Government Debt (Treasury Notes & Treasury Bonds): Like T-bills, these bonds are issued by the federal government in order to borrow money. These debt instruments pay semiannual coupons (interest payments) and are sold at or near face value, in denominations of \$1,000 or more. Treasury notes typically have maturity dates of between two and ten years; treasury bonds have maturity dates of ten years or more.⁸¹

Municipal Bonds: State and local governments also issue bonds to finance projects. The most notable feature of municipal bonds is the fact that their interest payments are exempt from federal income taxes.⁸²

Mortgage Pools: Also known as "pass-throughs," mortgage pools are similar to mutual funds in that a bank or other holder of mortgages pools numerous mortgages and then sells shares in the income produced by the mortgages. The mortgage payments thereby "pass through" the bank to the shareholders.⁸³

Long Term Corporate Debt (Bonds): Private corporations regularly issue long term bonds which typically pay semiannual coupons and then pay

79. Fabozzi, *supra* note 78, at 224-25; FABOZZI & MODIGLIANI, *supra* note 7, at 422-23.

80. A thorough treatise on domestic and international money market vehicles is MARCIA STIGUM, *THE MONEY MARKET* (3d ed. 1990).

81. FABOZZI & MODIGLIANI, *supra* note 7, at 447; *see generally* Fabozzi & Fabozzi, *supra* note 77, at 173-88.

82. Sylvan G. Feldstein & Frank J. Fabozzi, *Municipal Bonds*, in *THE HANDBOOK OF FIXED INCOME SECURITIES*, *supra* note 76, at 413, 413.

83. Linda Lowell, *Mortgage Pass-Through Securities*, in *THE HANDBOOK OF FIXED INCOME SECURITIES*, *supra* note 76, at 562, 563; *see generally* FABOZZI & MODIGLIANI, *supra* note 7, at 567-84.

out the face value of the bond at maturity. A convertible bond comes with an option allowing the bondholder to trade the bond for a specific number of common stock shares of the corporation.⁸⁴

The principal risk involved in fixed income vehicles is the risk that the issuer will go bankrupt before paying off its obligations. In the case of the U.S. federal government (and most state and local governments), this risk is negligible,⁸⁵ and in the case of many large corporations, it is very small.⁸⁶ Additionally, the debtholders will be paid before the equity-holders (stockholders), which adds somewhat to the riskiness of equity.⁸⁷

3. Derivatives

The final category of investment vehicles are known as derivatives. One common characteristic of derivatives is that they involve a right to do something in the future, for example, in the case of commodities futures, the right to buy 100 head of cattle in one year at a fixed price.⁸⁸ Examples of derivatives are forwards, futures, and options.

Forwards: A forward is a personalized contract worked out with a bank, wherein the terms of some future transaction are locked in today. There is therefore great flexibility, but such contracts are not usually very liquid.⁸⁹

Futures: Futures are standardized contracts, wherein the terms of some future transaction are locked in today, for example, a contract that A will buy from B 100 bushels of corn for \$25 per bushel. Each side is betting that the terms locked in today will be more favorable to him or her than those which will be available in the future. Because these contracts are standardized, they can be and are traded heavily at commodities exchanges.⁹⁰

84. Frank J. Fabozzi et al., *Corporate Bonds*, in THE HANDBOOK OF FIXED INCOME SECURITIES, *supra* note 76, at 253, 253-54; see also FABOZZI & MODIGLIANI, *supra* note 7, at 472-73.

85. Fabozzi & Fabozzi, *supra* note 77, at 173.

86. Fabozzi et al., *supra* note 84, at 287; see generally FABOZZI & MODIGLIANI, *supra* note 7, at 480-84.

87. Fabozzi et al., *supra* note 84, at 254.

88. FABOZZI & MODIGLIANI, *supra* note 7, at 5.

89. *Id.* at 165.

90. *Id.*

Options: An option is the right to exercise some legal right in the future. A *call* option enables the option holder to buy at a guaranteed price. A *put* option enables the option holder to sell at a guaranteed price.⁹¹

It is important to note that investors do not normally trade in derivatives for the actual right, for instance, to receive 100 head of cattle. Rather, they buy the right to receive that cattle at some future date, with the belief that the value of that *right* will increase and with the intention of selling that right for a profit before the actual date of delivery.⁹²

These are the basic investment vehicles open to the investor. These vehicles are created not only in the United States but elsewhere in the world. With the internationalization of the world's financial markets, the investor now has the ability to invest her assets in any of several different countries.

B. *International Investment Opportunities*

1. The Internationalization of Financial Markets

As the world's economy has grown and the world has become ever more interdependent, modern investors have gained quite easy access to foreign capital markets and international investment opportunities in general.⁹³ One noted economist remarked in 1985, "[i]f a modern-day Rip Van Winkle had fallen asleep twenty years ago, . . . he would be astonished as to what has happened in the financial markets. Instead of a world of isolated national capital markets . . . , he would discover a world of highly integrated capital markets"⁹⁴

Ten years later this observation is even more true. Importantly, as the modern (presumably prudent) investor has gained access to international investment opportunities, so too has the modern trustee. For the trustee, the internationalization of financial markets brings new opportunities which were unavailable even relatively recently. Again, however, in order to understand how international investment vehicles can aid investment strategy, it is helpful to have some idea of what types of international investment opportunities are available.

91. *Id.* at 188-89.

92. *Id.* at 161.

93. William A. Schreyer, *The Globalization of Financial Markets*, in 1 INVESTING AND RISK MANAGEMENT 27 (Robert L. Kuhn ed., 1990).

94. FABOZZI & MODIGLIANI, *supra* note 7, at xxi (quoting Henry Kaufman).

2. International Investment Vehicles

International investment vehicles do not differ greatly from the domestic investment vehicles described above. Indeed, they are usually identical in form but have a different origin, namely capital markets outside the United States.⁹⁵ The following survey of foreign and international investment vehicles builds upon the presentation of investment vehicles *supra* Part III.A.

As in the case of domestic investment vehicles, international investment vehicles may be divided into equity, fixed income vehicles, and derivatives. For the sake of consistency, the international investment vehicles will be presented in the same order in which the domestic vehicles were discussed above.

a. International Equity Vehicles

International equity vehicles include foreign stock exchanges and international mutual funds.

Foreign Stock Exchanges: U.S. corporations are of course not the only corporations in the world to issue stock. Equally clear is that foreign corporations, even large ones, do not necessarily trade shares on the New York or American Stock Exchanges. There are several important stock exchanges which trade in foreign corporate stock, including the London Stock Exchange and the Nikkei exchange in Tokyo. The U.S. investor has access to these exchanges just as she has access to exchanges in the United States: by contacting a brokerage firm which has access to the exchange.⁹⁶

International Mutual Funds: There are now many mutual funds which are made up of stocks and other securities from outside the United States. Many such funds are "index" funds, which means they are constructed so as to mimic the return of an entire foreign exchange.⁹⁷ These mutual funds can be purchased quite easily from U.S. brokerage firms which have done all the work in analyzing and purchasing foreign securities.

95. A good survey of international investment opportunities is BRUNO SOLNIK, *INTERNATIONAL INVESTMENTS* (1988).

96. FABOZZI & MODIGLIANI, *supra* note 7, at 705-07.

97. For example, the European, Australian, and Far East (EAFE) index computed by Morgan Stanley.

As with domestic equity, international equity is also risky. In addition, when dealing with international and foreign stocks and mutual funds, the U.S. investor should be cautious to transact with reputable brokerage firms, ideally those with a proven record in international financial dealings.

b. International Fixed Income Vehicles

International fixed income vehicles can, like their domestic counterparts, be divided into two categories: short term and long term.

(i) *Short Term*

Short term international fixed income vehicles include short term government debt, Eurodollars, and international money markets.

Short Term Government Debt (Treasury Bills): The United States is not the only government to issue debt. Foreign governments also borrow money through issuance of bonds. The international investor can purchase short term government bonds from any foreign government willing to sell to her.⁹⁸

Eurodollars: A "Eurodollar" account is a bank account in a foreign bank which is nevertheless denominated in U.S. dollars.⁹⁹ These accounts escape U.S. regulations and are protected against changes in the exchange rate. Like CDs, these accounts can offer an increased rate of return in exchange for keeping the funds in the bank for a predetermined amount of time.¹⁰⁰

International Money Markets: This is essentially a mutual fund made up of international securities which are all short term, highly liquid, and relatively low risk debt instruments.¹⁰¹

(ii) *Long Term*

Long term international fixed income vehicles include long term government debt, long term corporate debt, and international debt mutual funds.

98. FABOZZI & MODIGLIANI, *supra* note 7, at 693-95.

99. The name "Eurodollars" comes from the fact that these accounts started in Europe. Today, such accounts are available throughout the world but are still known as "Eurodollars."

100. STIGUM, *supra* note 80, at 985-90.

101. *Id.* at 257-59.

Long Term Government Debt: Again, foreign governments issue debt at both short term and long term maturity. The international investor may have access to long term debt issued by foreign governments.¹⁰²

Long Term Corporate Debt (Bonds): Private corporations in foreign countries also regularly issue long term bonds, which again typically pay semiannual coupons and then the face value of the bond at maturity.¹⁰³

International Debt Mutual Funds: International debt mutual funds are mutual funds in which the assets purchased are debt instruments issued by international and foreign entities.¹⁰⁴

The risk involved in international fixed income vehicles may be higher than in domestic markets. Remember that the principal risk involved in fixed income vehicles is the risk of default by the issuer. As the recent financial crisis in Mexico illustrated, not all debt instruments issued by foreign governments are as risk free as those issued by the United States.¹⁰⁵ In the case of foreign corporations, the risk may be even greater.¹⁰⁶

c. International Derivatives

There are also international derivatives.¹⁰⁷ Like their U.S. counterparts, international derivatives involve a right to do something in the future. The main opportunity for U.S. investors when looking to foreign and international derivatives lies in foreign currency exchanges, although international futures also exist in agricultural and mineral commodities.¹⁰⁸ An example of a currency future would be a contract to buy 1 million deutsch marks at an exchange rate of DM 1.00/\$ 0.65. If the exchange rate is better for the buyer at the specified date than that to which the parties previously agreed, say DM 1.00/\$ 0.79, then she has made a good deal because she will turn right around and convert the

102. FABOZZI & MODIGLIANI, *supra* note 7, at 693–95.

103. *Id.*

104. Again, it should be noted that mutual funds can be created which combine both equity and debt, or even combine equity, debt, and derivatives.

105. See Graham Bowley, *Shockwaves Spread Beyond Latin America, Emerging Market Debt*, FIN. TIMES, March 13, 1995, at 24.

106. See Claire Makin, *Doesn't Anybody Remember Risk?*, INSTITUTIONAL INVESTOR, Apr. 1994, at 41.

107. FABOZZI & MODIGLIANI, *supra* note 7, at 709–11.

108. *Id.* at 664–67.

deutsch marks back into dollars for a profit. Forwards and options¹⁰⁹ also exist outside the United States but are usually involved in individual contracts and are not subject to widespread investment by U.S. investors.

C. Summary

It is clear by now that, given the number and variety of modern investment vehicles, U.S. investors now have easy access to foreign and international capital markets. However, knowing the types of international investment opportunities which are available is only the first step. The next and far more important step for the investor, and therefore the trustee, is to determine which vehicles to choose and how much of the assets of one's portfolio to invest in each vehicle. For the trustee, the question becomes: How would a prudent investor divide up and invest the assets of the trust to maximize the potential return on those assets? This question is answered by modern portfolio theory.

IV. MODERN PORTFOLIO THEORY

Modern portfolio theory is a relatively recent concept in financial theory.¹¹⁰ Nevertheless, it has become one of the most important and useful devices in investment strategy. While there are still some disagreements in the academic community as to the best models to utilize in order effectively to use the theory, scholars agree on the basic tenets of the theory with a unanimity which is uncommon in economics.¹¹¹ This Part will present and explain modern portfolio theory. Although this would be a worthwhile endeavor in and of itself given the importance of modern portfolio theory generally, it is especially important to understand how portfolios function in order to understand, as explained in Part V, how international investment vehicles can be an important and even vital part of prudent trust management.

109. A common form of option, known as a "European option," provides for an exclusive strike day sometime in the future, the only time at which the option is exercisable. FABOZZI & MODIGLIANI, *supra* note 7, at 188.

110. Modern portfolio theory was developed in the 1950's by Harry Markowitz. See Markowitz I, *supra* note 60, and MARKOWITZ II, *supra* note 60.

111. In contrast, the reader is invited to explore the debate on market efficiency. Suggested readings include: BURTON G. MALKIEL, A RANDOM WALK DOWN WALL STREET (1990); Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. OF FIN. 383 (1970); Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. OF FIN. 1575 (1991).

A. Portfolios

Modern investment theory begins with the notion of the portfolio. A portfolio is the group of assets in which a given investor has chosen to invest. An asset can either be an individual asset, like a stock or bond, or another portfolio. For example, an investor might invest in a portfolio comprised of \$10,000 in T-bills, \$10,000 in IBM stock, and \$20,000 in an index mutual fund.¹¹² There are three assets in the one portfolio. Now imagine a second investor who has \$25,000 invested in cattle futures. The two decide to pool their investments. One could conceptualize the resulting portfolio as made up of four assets, with Investor One's three assets and Investor Two's single asset; or one could conceptualize the portfolio as a two-asset portfolio, with Investor One's portfolio as one asset and Investor Two's asset as the second asset. It is unimportant how one conceptualizes the idea; the key is understanding that a portfolio is made up of assets, which can in turn be other portfolios.

The Third Restatement of Trusts explicitly recognizes the dominance of portfolios in modern wealth management. Section 227 specifically instructs trustees to look to investments "not in isolation but in the context of the trust portfolio."¹¹³ This emphasis on portfolios and "overall investment strategy"¹¹⁴ is also echoed throughout the lengthy comments accompanying that section.¹¹⁵

Portfolios, then, are the cornerstone of modern investment strategy. The reason for this is that having a portfolio of diverse assets (diversification) actually leads to a reduction of risk without a corresponding reduction in return. To understand why this is true, this note must move next to the concept of risk.

B. Risk and Risk Aversion

"Risk" has a special definition in financial theory. Usually, the concept of "risk" is associated with the probability that a bad thing will happen. People rarely talk about the "risk" of winning the lottery. In finance, however, risk simply measures the amount of uncertainty in-

112. An index mutual fund is one which is made up of stocks which are meant to be representative of the stock market as a whole. An example is Vanguard's S&P 500 Index, which is made up of a weighted average of the 500 stocks Standard & Poor's uses to track market activity.

113. REST. 3d, *supra* note 3, § 277(a).

114. *Id.*

115. *Id.* § 227 and cmts., *see especially* cmt. g (regarding risk and the requirement of diversification).

volved in future outcomes.¹¹⁶ Imagine a game wherein a player begins with \$5. A coin is tossed. If it comes up heads, the player wins \$3; if it comes up tails, he loses \$1. Assume also that there is no cost to playing the game. The "risk" in a conventional sense would be a fifty percent chance of losing \$1. In financial terms, however, the risk here is identical for either outcome. There is a .5 probability of heads and a .5 probability of tails. The fact that the gain is higher does not affect the risk. It does however illustrate two important concepts: risk premiums and risk aversion.

If the risk of either outcome is .5, why then is the player given \$3 if she wins but loses only \$1 if she loses? The answer is that the player demands a risk premium to play the game (to risk the \$5 she holds right now). Our player is risk averse. Suppose she would not play the game if she only won \$2 when the coin turned up heads. She would rather have \$5 guaranteed than a fifty percent chance at \$7. But she has decided to play the game if she is given \$3 for a heads. She would therefore rather have a fifty percent chance at \$8 than a guaranteed \$5. She is not entirely risk averse, in the sense that she will never risk her money, but she is risk averse enough that, to risk her \$5, she must have an extra return over the sterile risk of the coin toss. The extra return is known as the "risk premium."

Risk aversion varies from person to person.¹¹⁷ Some people would be happy to play the same game where they only received \$1 for a heads and still lost \$1 for a tails. Such a game would be a "fair game," and there are many people who will play such a game. Indeed, there are many people who will play even something worse than a fair game because they enjoy the risk itself and therefore demand no financial risk premium.¹¹⁸ There are others who would demand a smaller risk premium; they are risk averse, but less so than the player discussed above. There are still others who are so risk averse that they would demand \$5 or even \$10 for a heads. These people are likely to discover, however, that no one wants to play with them.

Risk could be quantified in many ways, but it is most often measured as the variance of possible future outcomes.¹¹⁹ Returning to the

116. James Tobin, *Liquidity Preference as Behavior Towards Risk*, in RISK AVERSION AND PORTFOLIO CHOICE 1, 10 (Donald D. Hester & James Tobin eds., 1967).

117. *Id.* at 11.

118. A trustee who followed this path would of course soon find himself sued for malpractice. Prudent investors do not enjoy risk for risk's sake.

119. The variance of returns is equal to the square of the standard deviation of returns, which in turn measures the dispersion of possible returns around the average return. Markowitz I, *supra* note 63, at 89; Tobin, *supra* note 116, at 10.

original game, the possible future outcomes can be summarized in the following table:

<u>Scenario</u>	<u>Probability</u>	<u>Outcome</u>
1	.5	+ \$3
2	.5	- \$1

In order to calculate the variance of these returns, one must first calculate another figure, known as the "expected outcome." The expected outcome is a number intended to give a feel for the outcomes involved.¹²⁰ It is calculated by taking the weighted averages of the possible outcomes. In this case, the expected outcome on the game would be:

$$(\text{Prob}_{\text{scen1}})(\text{Outcome}_{\text{scen1}}) + (\text{Prob}_{\text{scen2}})(\text{Outcome}_{\text{scen2}})$$

$$(.5)(+ \$3.00) + (.5)(- \$1.00) = \$1.50 - \$0.50 = \$1.00$$

The expected outcome of the game is \$1. The variance of the outcomes is measured by seeing how far the possible outcomes vary from this expected outcome.¹²¹ To do this, the above chart needs to be extended, and some new terms added:

<u>Scen</u>	<u>Prob</u>	<u>Outcome(r)</u>	<u>E(r)</u> ¹²²	<u>r - E(r)</u>	<u>[r - E(r)]²</u>
1	.5	+ \$3	\$1.00	+ \$2	4
2	.5	- \$1	\$1.00	- \$2	4

The variance is calculated by determining the expected value of the variable $[r - E(r)]^2$ as was done when computing the expected value of the outcome above:

$$(\text{Prob}_{\text{scen1}})([r - E(r)]^2_{\text{scen1}}) + (\text{Prob}_{\text{scen2}})([r - E(r)]^2_{\text{scen2}})$$

$$(.5)(4) + (.5)(4) = 2 + 2 = 4$$

The variance is thus four. This is a useful number which tells us a great deal about the risk of the above game. Another useful number is called the "standard deviation," which is simply the square root of the variance.¹²³ In this case, the standard deviation is two. Note that each possible outcome deviates from the expected outcome (\$1) by \$2.

120. MARKOWITZ II, *supra* note 60, at 65-70.

121. *Id.* at 73-74.

122. Calculated above.

123. MARKOWITZ II, *supra* note 60, at 17-19.

Viewed in isolation, this number may seem to provide little guidance. However, imagine a game with an identical expected outcome but different payoffs for heads and tails. The game (game two) is summarized as follows:

<u>Scenario</u>	<u>Probability</u>	<u>Outcome</u>
1	.5	+ \$7
2	.5	- \$5

The expected return on this game would be:

$$(\text{Prob}_{\text{scen1}})(\text{Outcome}_{\text{scen1}}) + (\text{Prob}_{\text{scen2}})(\text{Outcome}_{\text{scen2}})$$

$$(.5)(+ \$7.00) + (.5)(- \$5.00) = \$3.50 - \$2.50 = \$1.00$$

The expected outcome of game two is also \$1. The riskiness of game two is significantly higher than that of game one, however. The variance chart looks like this:

<u>Scen</u>	<u>Probability</u>	<u>Outcome (r)</u>	<u>E(r)</u>	<u>r - E(r)</u>	<u>[r - E(r)]²</u>
1	.5	+ \$7	\$1.00	+ \$6	36
2	.5	- \$5	\$1.00	- \$6	36

The variance is then calculated by:

$$(\text{Prob}_{\text{scen1}})([r - E(r)]^2_{\text{scen1}}) + (\text{Prob}_{\text{scen2}})([r - E(r)]^2_{\text{scen2}})$$

$$(.5)(36) + (.5)(36) = 18 + 18 = 36$$

The variance is thirty-six, and the standard deviation is six.

The result is that no risk averse investor would play game two if she could play game one because the expected outcome of the games is identical (\$1) while the risk, as measured by the standard deviation, is much higher (three times higher) in game two. Risk averse investors require a risk premium for bearing additional risk, but there is no additional payoff — no risk premium — in game two for the additional risk involved.

This result is important because risk aversion is essentially universal.¹²⁴ Most people are at least slightly risk averse. Not everyone has the same level of risk aversion, of course.¹²⁵ Risk aversion can be assigned a quantitative value, which can be used to determine the level of risk a

124. KENNETH J. ARROW, ASPECTS OF THE THEORY OF RISK-BEARING 28 (1965).

125. Tobin, *supra* note 116, at 11.

person is willing to tolerate for a given expected return.¹²⁶ Risk aversion is measured by the coefficient of risk aversion,¹²⁷ which is denoted by the algebraic variable, A . The coefficient of risk aversion is used in the following equation:¹²⁸

$$U = E(r) - .005A\sigma^2$$

where U is the personal utility¹²⁹ an investor reaps, σ^2 is the variance of returns (the risk), and .005 is used as a scaling convention. This equation models how utility from an investment increases as the expected rate of return increases, and it decreases as the variance, or risk, increases. The relative magnitudes of these changes in utility is determined by the investor's risk aversion, as measured by A . The value of A is personal to the investor. For a risk neutral investor, A equals zero, but many people have a level of risk aversion between three and four.¹³⁰ There is, however, no standard value for A .¹³¹

Risk aversion, then, is essentially universal, and risk aversion determines the risk an investor will be willing to bear for a given expected return. This is important because different investments offer different expected returns and different levels of risk. The trustee, when forming an optimal portfolio for the assets of the trust, will need to understand this relationship when diversifying the portfolio. Diversification enables the investor to reduce risk substantially while keeping expected returns constant.

C. Diversification

1. Correlation and Covariance

Diversification is not a new concept. It is embodied in the age old admonition not to keep all of one's eggs in a single basket. By holding various assets, the investor can reduce the risk that he will lose all of his money in any one of the assets. Of course, diversification is more than simply holding multiple assets. Investing half of one's money in Exxon

126. It also determines the expected return a person will require for a given level of risk.

127. ZVI BODIE ET AL., *INVESTMENTS* 146 (2d ed. 1993); RICHARD DOBBINS & STEPHEN F. WITT, *PORTFOLIO THEORY AND INVESTMENT MANAGEMENT* 29 (1983).

128. BODIE ET AL., *supra* note 127, at 146; DOBBINS & WITT, *supra* note 127, at 29.

129. This is a subjective emotional concept. That people act to maximize their utility is an arguably simplistic but useful "truth in economics." The equation is helpful primarily to model how risk aversion affects people's investment decisions in attempting to maximize their utility. See ARROW, *supra* note 124, at 30-33.

130. BODIE ET AL., *supra* note 127, at 147.

131. *Id.*; DOBBINS & WITT, *supra* note 127.

and the other half in Texaco might not do much to reduce risk because, even though one has placed half of one's eggs in the Exxon basket and half in the Texaco basket, those two baskets are probably both sitting in a larger basket, perhaps labeled "The United States Oil Industry." The point of diversification is to invest not only in multiple assets but to invest in assets which tend to complement each other as far as risk is concerned.

A simple example should help to illustrate the point.¹³² Imagine an investor who owns only two assets. One is his home worth \$100,000. The other is a home owner's insurance policy with a face value of \$100,000. These two assets complement each other because, should the house burn down, our investor will receive \$100,000 cash. Should the house not burn down, the investor will own a home worth \$100,000. Either the house will burn down or it will not, and in either case the investor has the same level of wealth.¹³³

Statistically speaking, the house and insurance policy are said to be "perfectly negatively correlated." This means that for every change in the value of the one asset, the other asset has a corresponding, but opposite, change in value. If two assets are perfectly positively correlated, then for every change in the value of one asset, the value of the other asset will change a corresponding amount in the identical direction.¹³⁴ In practice, there are few if any pairs of perfectly correlated assets, positive or negative. Most assets do however tend to move somewhat with other assets.¹³⁵ For example, as stock A increases in value \$10, stock B may tend to increase in value \$4, or stock C may tend to decrease in value \$2. The degree to which two stocks move together is called "covariance" because it measures how much the two stocks "covary."¹³⁶

Financial assets can work in similar ways to reduce the risk of an investor's portfolio. Imagine an investor who again holds two assets: \$50,000 in the stock Big Sugar Corporation, which produces sugar, and \$50,000 in the stock of CandyCo, which produces candy. Imagine that the price of imported sugar rises. Big Sugar may be able to raise its prices as

132. This example is borrowed from BODIE ET AL., *supra* note 127, at 150.

133. Transaction costs and taxes are of course disregarded in this simple example.

134. MARKOWITZ II, *supra* note 60, at 82-86.

135. *Id.* at 113.

136. The relationship between correlation (ρ) and covariance (Cov) between two assets, x and y , is stated algebraically in the following equation:

$$\rho_{xy} = \frac{Cov(x,y)}{\sigma_x \sigma_y}$$

where σ_x is the standard deviation of returns on asset x and σ_y is the standard deviation of returns on asset y . MARKOWITZ II, *supra* note 60, at 85.

well. Big Sugar's profits will go up, and the value of its stock will then rise. At the same time, however, the rise in sugar prices may drive up the production costs at CandyCo, driving down profits and adversely affecting the value of its stock. This means that Big Sugar stock and CandyCo stock are negatively correlated. The investor has been able to reduce the effect of the riskiness in world sugar prices by investing in two assets which react oppositely to changes in those prices.

2. Idiosyncratic and Systemic Risk

Although diversification reduces risk, it cannot eliminate that risk because all assets possess two types of risk: idiosyncratic risk and systemic risk.¹³⁷ Idiosyncratic risk, or asset-specific risk, reflects that risk attributable to events unique to the company (such as labor disputes or management changes).¹³⁸ Systemic risk reflects the risk inherent in the market as a whole (such as recessions).¹³⁹ Diversification can eliminate idiosyncratic risk, but it cannot reduce systemic risk. This should not be surprising. Large macroeconomic phenomena like recessions affect almost all financial assets similarly.¹⁴⁰ Therefore, each asset in the portfolio — and consequently the portfolio as a whole — will be affected in the same way by a major macroeconomic phenomenon.

3. Eliminating Idiosyncratic Risk Through Diversification

To illustrate how diversification works to eliminate firm-specific risk, this note will now turn to two examples. In the first example, a simple portfolio is formed of two "risky" assets. In the second example, the portfolio is comprised of the same risky assets and an additional "risk-free" asset. The archetypical risk-free asset is U.S. Treasury bills. These assets are considered essentially risk-free because the risk of default is infinitesimal,¹⁴¹ although inflation and rising interest rates can affect their return. Other risk-free assets include CDs and money market accounts because they are relatively short term investments with essentially guaranteed returns.¹⁴² Risky assets are every other type of asset — including stocks, corporate bonds, and futures.

137. John J. Evans & Stephen H. Archer, *Diversification and the Reduction of Dispersion: An Empirical Analysis*, 23 J. OF FIN. 761, 761 (1968).

138. *Id.*

139. *Id.*

140. *Id.*

141. Fabozzi & Fabozzi, *supra* note 77, at 173.

142. See discussion *supra* part III.A.

a. Example One: Two Risky Assets

Imagine an investor who has decided to invest all of her wealth in only two assets. She has decided to invest in two stocks: Acme Corporation (A) and Big Corporation (B). To see how investing in these two stocks will affect the overall risk of the portfolio, one needs to know certain information about the stocks, particularly the expected return of each stock, the variance of each stock's returns, and the covariance between the two stocks. Unlike in the coin-tossing example above, however, these figures are not so simply known.

The expected return of a stock is still technically a weighted average of possible returns. However, the number of possible returns is essentially infinite, or at least large enough to make it impossible to calculate expected returns as done above. Fortunately, there are several models used in practice to predict returns on financial assets. One model is known as the Capital Asset Pricing Model (CAPM).¹⁴³ Although there is some dispute in academic circles as to the usefulness of CAPM, it is probably as good and as practical a predictor of returns as any.¹⁴⁴

Expected returns are calculated with CAPM by looking to larger macroeconomic factors and to the sensitivity of the stock to those factors. CAPM requires the analyst to discover several pieces of information: the return on risk-free assets, the expected return on the market as a whole, and the sensitivity of the stock to the return of the market.¹⁴⁵ Once these values are uncovered, they are plugged into the CAPM equation to determine the expected return on the stock. The CAPM equation is:

$$E(r_i) = r_f + \beta_i[E(r_M) - r_f]$$

143. The Capital Asset Pricing Model (CAPM) was developed in the following four articles: William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium*, 19 J. OF FIN. 425 (1964); John Lintner, *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets*, 47 REV. OF ECON. & STAT. 13 (1965); Jan Mossin, *Equilibrium in a Capital Asset Market*, 34 ECONOMETRICA 768 (1966); Jack Treynor, *Towards a Theory of Market Value of Risky Assets* (1961) (unpublished manuscript on file with the *Michigan Journal of International Law*).

144. Other models used include Arbitrage Pricing Theory and Factor Models. Each model has its own strengths. For more information, see Stephen A. Ross, *The Arbitrage Theory of Capital Asset Pricing*, 13 J. OF ECON. THEORY 341 (1976); William F. Sharpe, *A Simplified Model for Portfolio Analysis*, 9 MGMT. SCI. 277 (1963).

145. These figures must be for the same time horizon as is being predicted. Thus, for example, if one wants to know the return on stock x over the next six months, one should look to the expected return on the market over the next six months.

where $E(r_i)$ is the expected return on stock i , r_f is the return on risk free assets, β_i measures the sensitivity of the stock to the market, and $E(r_M)$ is the expected return on the market. These values are actually readily discoverable. There are enough financial analysts analyzing market information that the common investor can find the information quite easily.¹⁴⁶

Now imagine that the investor has uncovered the following information:

<u>Asset</u>	<u>E(r)</u>	<u>Variance</u>	<u>Covariance (A,B)</u>
A	.10	.075	-.05
B	.15	.125	-.05

This information can be used to illustrate how the portfolio will reduce the risk to the investor's wealth. The first piece of information with which the investor is concerned is the expected return on the portfolio. The expected return on a portfolio is simply the weighted average of the expected returns on the assets in the portfolio.¹⁴⁷ If the investor decided to divide her wealth evenly, then the expected return on the portfolio would be:

$$\begin{aligned} E(r_p) &= w_A E(r_A) + w_B E(r_B) \\ E(r_p) &= (.5)(.10) + (.5)(.15) \\ E(r_p) &= .125 \end{aligned}$$

The expected return is 12.5 percent. If the investor had decided to place, say, three-quarters of her wealth in asset B , perhaps because of its higher expected return, then the expected return on the portfolio would have been 13.75 percent.¹⁴⁸ Although this higher portfolio return might immediately seem preferable, there is an additional concern, namely portfolio risk.

Portfolio risk, like asset risk, is measured by the variance of portfolio returns. Portfolio variance is not, however, a simple weighted average of asset variances, as is the case with expected returns. Rather, as noted above, risk in a portfolio is determined by the way in which the assets of the portfolio interact. Algebraically, the variance of a portfolio

146. For example, the return on risk-free assets can be taken from the interest rates on T-bills, and β_i can be found in several commercial publications, such as Value Line Sheets.

147. $E(r_p) = \sum w_i E(r_i)$, where $E(r_p)$ is the expected return on the portfolio, w_i is the proportion (weight) of wealth invested in asset i , and $E(r_i)$ is the expected return on asset i . MARKOWITZ II, *supra* note 60, at 45.

148. $E(r_p) = w_A E(r_A) + w_B E(r_B) = (.25)(.10) + (.75)(.15) = .1375$.

is calculated by taking a slightly different weighted average of the covariances between the stocks.¹⁴⁹ Again dividing the wealth evenly between two stocks, the variance of the resultant portfolio is the following:¹⁵⁰

$$\begin{aligned} \text{Var}(r_p) &= w_A^2 \text{Var}_A + w_B^2 \text{Var}_B + 2w_A w_B \text{Cov}(A, B) \\ \text{Var}(r_p) &= (.5)^2 (.075) + (.5)^2 (.125) + 2(.5)(.5)(-.05) \\ \text{Var}(r_p) &= .025 \end{aligned}$$

So the risk of the portfolio, as measured by the variance, is .025, which is lower than it was for either asset alone. Had the investor invested three-quarters of her wealth in asset *B*, then the variance of the portfolio would have been .056, significantly higher than with an even split.¹⁵¹ The results can be summarized in the following table:

Asset	$E(r)$	Var
A alone	.10	.075
B alone	.15	.125
A & B ¹⁵²	.125	.025

The conclusion is obvious. The diversified portfolio offers a solid return at a significantly reduced rate of risk. Note also that as more of the portfolio's assets were invested in riskier (higher return) assets, the riskiness and expected return of the portfolio also rose; in either case, however, the riskiness of the portfolio was still reduced relative to the riskiness of either asset alone.

b. Example Two: Adding a Risk Free Asset

Now let us add a risk-free asset. The calculations are essentially the same. Imagine our investor has decided to invest part of her wealth in

149. $\text{Var}(r_p) = \sum \sum w_i w_j \text{Cov}(i, j)$, where $\text{Var}(r_p)$ is the variance of returns of the portfolio, w_i and w_j are the proportions (weights) invested in assets i and j , respectively, and $\text{Cov}(i, j)$ is the covariance between any two assets i and j . MARKOWITZ II, *supra* note 63, at 92-94.

150. In the case of a two asset portfolio, the general equation *supra* note 151 reduces to this equation because the covariance of a stock with itself is simply the variance of the stock, and the covariance of *A* with *B* is equal to the covariance of *B* with *A*:

$$\begin{aligned} \text{Var}(r_p) &= \sum \sum w_i w_j \text{Cov}(i, j) \\ \text{Var}(r_p) &= (w_A)(w_A) \text{Cov}(A, A) + (w_A)(w_B) \text{Cov}(A, B) + (w_B)(w_A) \text{Cov}(B, A) + \\ & (w_B)(w_B) \text{Cov}(B, B) \\ \text{Var}(r_p) &= w_A^2 \text{Var}_A + w_B^2 \text{Var}_B + 2w_A w_B \text{Cov}(A, B) \end{aligned}$$

151. $\text{Var}(r_p) = w_A^2 \text{Var}_A + w_B^2 \text{Var}_B + 2w_A w_B \text{Cov}(A, B) = (.25)2(.075) + (.75)2(.125) + 2(.25)(.75)(-.05) = .05625$.

152. With an even, 50-50 split.

T-bills with a guaranteed return¹⁵³ of seven percent. The expected return on the portfolio would be calculated the same: a weighted average of each asset. Suppose the investor decides to invest a third of her wealth in each asset. The expected return on the portfolio would be:

$$\begin{aligned} E(r_p) &= w_A E(r_A) + w_B E(r_B) + w_C E(r_C) \\ E(r_p) &= (.333)(.10) + (.333)(.15) + (.333)(.07) \\ E(r_p) &= .1067 \end{aligned}$$

The expected return on such a portfolio would be 10.67 percent. This is somewhat less than the 12.5 percent return obtained through a portfolio of only assets *A* and *B*. But there is an advantage to the incorporation of a risk-free asset, namely a substantial reduction in overall risk.

The risk of the portfolio is still calculated by taking a weighted average of the covariances. The important development here is that the covariance of a risk-free asset with any other asset is zero! This is true because the return on the risk-free asset does not change — ever — so it cannot move as the return on another asset moves. This means that the variance on the portfolio is still:

$$Var(r_p) = w_A^2 Var_A + w_B^2 Var_B + 2w_A w_B Cov(A, B)$$

Now, however, only one-third of the investor's wealth is invested in each of assets *A* and *B*. The portfolio variance is therefore:

$$\begin{aligned} Var(r_p) &= (.333)^2(.075) + (.333)^2(.125) + 2(.333)(.333)(-.05) \\ Var(r_p) &= .011 \end{aligned}$$

The variance on the portfolio has been slashed by the incorporation of the risk-free asset.

* * *

Whether the risk-free asset is included or not, it is clear that diversification lowers risk while lowering expected returns to a lesser degree. This risk-reducing benefit of diversification is more pronounced as more assets are included in the portfolio. A portfolio of twenty-five assets will have a greater benefit from diversification than a portfolio of only three assets.¹⁵⁴ There is a limit however. After about fifty assets, the marginal

153. One important side note is the difference between real and nominal returns. Real returns are adjusted for inflation; nominal are not. It is ultimately unimportant which are used, but it is essential to be consistent, for instance, do not compare or commingle real and nominal returns.

154. Evans & Archer, *supra* note 137, at 767.

benefit of each additional stock is negligible.¹⁵⁵

These examples have shown how diversification reduces overall risk. What has yet to be addressed is how an investor can form the optimal portfolio. Two things should be said about this. First, there *is* an optimal portfolio for every investor. Second, the proportion of one's wealth to invest in a given asset, in order to form this optimal portfolio, *can* be determined.

D. Optimal Portfolios

The goal of diversification is the elimination of all asset-specific risk. This goal is not only attainable, as shown above, it is so basic that failure to do so by a trustee could in many cases constitute a breach of fiduciary duty.¹⁵⁶ The job of the investor (or broker or trustee) is therefore to select the combination of assets which will most effectively eliminate asset-specific risk. This entails not only selecting in which assets to invest, but also at what levels of investment. The most common, and perhaps best, method of choosing assets is known as "top-down analysis."¹⁵⁷

In top-down analysis, the investor performs three steps. In the first step, she decides what proportion of her wealth to invest in risk-free assets and what proportion to invest in risky assets. This level of analysis is the most general.

In the next step, the investor looks inside the risk-free and risky divisions and decides in what types of investment vehicles to invest. Imagine an investor who has decided to invest twenty percent of her wealth in risk-free assets and eighty percent in risky assets. She must then decide how much of that twenty percent to invest in Treasury bills, how much in CDs, and so forth. She must also decide how much of the eighty percent to invest in, for example, stocks or corporate bonds.

In the final step, the investor decides exactly which assets to purchase within each type of investment vehicle. After deciding to invest, for instance, twelve percent of her wealth in corporate stocks in step two, she will now decide exactly which stocks to purchase, for example, those of corporation A or corporation B. Likewise she will decide exactly which types of government bonds or money markets to purchase. When this step is completed, the entire portfolio has been formed.

155. *Id.*

156. This broad generalization is, of course, subject to several exceptions, for example, if the terms of the trust itself dictate where the wealth of the trust should be invested.

157. BODIE ET AL., *supra* note 127, at 172.

The optimal fraction of the complete portfolio to place in risk-free assets is determined by the investor's level of risk aversion. A highly risk averse investor will invest most of her wealth in risk-free assets. An investor with a lower level of risk aversion will invest more in the risky assets. The optimal proportion of one's wealth one will invest in risk-free assets is found by the following term:¹⁵⁸

$$1 - \frac{E(r_p) - r_f}{A\sigma_p^2}$$

where $E(r_p)$ is the expected return on the optimal risky portfolio (explained *infra*), r_f is the return on risk-free assets, A is the investor's coefficient of risk aversion, and σ_p^2 is the variance of returns on the optimal risky portfolio. The remainder of one's wealth should be invested in the optimal risky portfolio (explained *infra*). This will lead to the optimal complete portfolio.

There is also an optimal combination of risky assets. Unlike the optimal complete portfolio, the composition of the optimal risky portfolio is independent of the investor's level of risk aversion.¹⁵⁹ That is, the optimal combination of risky assets is universal, whereas the amount of one's wealth to invest in this optimal risky portfolio is investor-specific.

The formation of the optimal risky portfolio entails analysis similar to that used in the example in the preceding section. The ultimate goal of the investor is to maximize the "reward-to-variability ratio."¹⁶⁰ This is the ratio of excess expected return (excess over the risk-free rate, which is equal to the risk premium) to the risk. The exact term¹⁶¹ to be maximized is this:

$$\frac{E(r_p) - r_f}{\sigma_p}$$

where $E(r_p)$ is the expected return on the portfolio, r_f is the return on risk-free assets, and σ_p is the standard deviation of the portfolio returns. Given two portfolios, the one with the higher reward-to-variability ratio is always the better portfolio.¹⁶² A portfolio with a lower

158. *Id.* at 184.

159. *Id.* at 219.

160. This is also known as "Sharpe's Measure" after William F. Sharpe who proposed it in his article *Mutual Fund Performance*, 39 J. OF BUS. 119 (1966).

161. *Id.* at 122.

162. *Id.*

reward-to-variability ratio will have a lower expected return for the same level of risk and a higher level of risk for the same expected return. As a result, every investor should hold the identical optimal risky portfolio.¹⁶³

In order to maximize the reward-to-variability ratio, the investor will need to decide what proportion of her wealth to invest in every conceivable asset. The proportions are determined by solving the following series of equations for the z coefficients:

$$\begin{aligned} E(r_1) - r_f &= z_1 \text{Var}_1 + z_2 \text{Cov}(1,2) + \dots + z_n \text{Cov}(1,n) \\ E(r_2) - r_f &= z_1 \text{Cov}(2,1) + z_2 \text{Var}_2 + \dots + z_n \text{Cov}(2,n) \\ &\dots \\ E(r_n) - r_f &= z_1 \text{Cov}(n,1) + z_2 \text{Cov}(n,2) + \dots + z_n \text{Var}_n \end{aligned}$$

where there are n number of assets. Today, computer programs make such analysis practicable. Once the z coefficients are determined, then the proper weight to be invested in each asset is determined by the following equation:

$$w_i = \frac{z_i}{\Sigma z}$$

where w_i is the proportion of wealth to invest in asset i , and Σz is the sum of the z coefficients. Once these weights are determined, the investor can form the optimal risky portfolio by investing the proper proportion of her wealth in each asset. Having already determined what proportion of her overall wealth to invest in risky assets as a whole, the formation of the investor's optimal complete portfolio is accomplished.

E. Summary

This Part has intended to illustrate the importance of diversification. It has discussed the basic concepts behind diversification, and it has shown the calculations involved in actual portfolio formation. This has been necessary because the exact interplay between individual assets and portfolios must be understood if the reader is to understand how international investment vehicles can be vital to an overall diversification strategy.

163. Of course, not every investor actually does so. This is attributable to several factors. To some degree, some stocks are essentially perfect substitutes, inasmuch as they have the same expected returns, variances, and covariances with other stocks. Also, information is imperfect, so the analysis which goes into optimal portfolio formation will yield varying results. Moreover, some investors consider their labor an asset and therefore diversify away from the field in which they work, such as auto manufacturing or health care.

This note will now turn to the role of international investment opportunities in optimal portfolio formation. This in turn will illuminate how a trustee has a fiduciary duty to consider such international investment opportunities when managing a trust.

V. THE DUTY TO CONSIDER INTERNATIONAL INVESTMENT OPPORTUNITIES

A. *International Investment Vehicles and Portfolio Risk*

International investment vehicles can present a unique opportunity to the investor. Recall from Part III.B.2 the various international and foreign investment opportunities available to the modern U.S. investor. Many of these vehicles, when viewed in isolation, provide returns comparable to domestic vehicles, but at or above the risk levels of those domestic vehicles. However, one of the most basic tenets of modern portfolio theory is the maxim that the riskiness of an asset cannot be determined in isolation but can be usefully determined only within the context of the overall risk of the portfolio to which the asset is added. The riskiness of a portfolio is determined by the covariance of the assets within the portfolio.¹⁶⁴ This means that the true information to consider when evaluating the desirability of investing in a particular asset is the covariance of the asset with the other assets in the portfolio. It is quite possible for an asset to seem extremely risky when viewed in isolation but nevertheless to be an overall risk reducer within a portfolio.

There are many capital markets outside of the United States, such as the Nikkei stock exchange in Japan or the Eurobond market in Europe. Presently, these international capital markets are less than perfectly correlated.¹⁶⁵ For example, recent studies show that the correlation¹⁶⁶ between the U.S. and German stock markets is only .032, the correlation between the U.S. stock market and the Europe, Australia, and Far East (EAFE) stock market index is only .47, and the correlation between the U.S. stock market and world index is only .87.¹⁶⁷ This is important because lower correlation between assets means lower covariance between assets. Lower covariance between assets results in reduced portfolio risk. Several empirical studies have verified that the imperfect correlation of the world's capital markets can lead to reduced portfolio risk

164. MARKOWITZ II, *supra* note 60, at 19.

165. Gary L. Bergstrom, *A New Route to Higher Returns and Lower Risks*, in *INTERNATIONAL INVESTING* 48, 54 (Peter L. Bernstein ed., 1983).

166. Perfectly correlated markets would have a correlation of 1.

167. SOLNIK, *supra* note 95, at 38.

for the smart investor.

One study compared the return on an internationally diversified portfolio with the return on a composite of stocks traded on the New York Stock Exchange (NYSE). The study was carried out from 1971 to mid-1975. The results were these: not only did the international portfolio have a lower standard deviation (risk) than the NYSE portfolio (.020 compared to .027), but the international portfolio also had a return almost four times higher than the NYSE (30.8 percent compared to only 8.4 percent).¹⁶⁸

A second study reached similar conclusions regarding international bonds. The optimal portfolio of bonds between 1976 and 1983 was a seventy-thirty percent split between U.S. bonds and foreign bonds.¹⁶⁹ This seventy-thirty portfolio outperformed an all-U.S. bond portfolio significantly (standard deviation risk level of only .092 compared to .098, with a return of 7.5 percent compared to 6.5 percent). In fact, a portfolio with a proportion of as high as forty percent in international bonds would still have outperformed an all-U.S. bond portfolio.¹⁷⁰

Yet another study concluded that an international portfolio of a worldwide stock index had less risk than a purely U.S. stock portfolio (standard deviation of .14 rather than .16) and had a return more than fifty percent higher.¹⁷¹ The same study showed that an internationally diversified bond portfolio had a lower risk (standard deviation of .10 rather than .14) for the same return. All in all, studies suggest that international diversification can lead to as much as a twenty to forty percent reduction of risk with no reduction in return.¹⁷²

The conclusion seems inescapable. International diversification leads to superior portfolio performance. Nevertheless, most U.S. investors do not invest significantly outside the United States. This reality would seem to undermine the impact of the studies outlined above. However, a closer look at the reasons why investors often refrain from international investment will show that international diversification is in fact usually the better investment strategy.

There are several reasons why modern U.S. investors do not invest internationally, even though such investment is available to them.

168. *Id.*

169. Optimal portfolio means it had the highest reward-to-variability ratio. Bruno H. Solnik, *Why Not Diversify Internationally Rather Than Domestically?*, FIN. ANALYSTS J., July 1974.

170. G. Barnett & M. Rosenberg (1983), reported in SOLNIK, *supra* note 95, at 50-51.

171. Bruno Solnik & Bernard Noetzelin, *Optimal International Asset Allocation*, 9 J. OF PORTFOLIO MGMT. 11 (1982).

172. Bergstrom, *supra* note 165, at 48.

Among the most common justifications are unfamiliarity with foreign investment opportunities and markets, uneasiness with foreign regulation of financial investments, and fears regarding foreign political and economic stability. A lack of financial data regarding foreign investments can be a very important justification for refraining from international diversification. Indeed, it would be impossible to determine the desirability of investing in a particular international asset without being able at least to estimate the asset's expected return and variance of returns. While this concern has historically inhibited international investment, it is still a very real concern today.¹⁷³

Foreign regulations can also inhibit international investment by the U.S. investor. Many foreign governments regulate investment differently from the United States.¹⁷⁴ In addition, in some countries, regulation can take the extreme form of nationalization or seizure of assets. These regulatory differences, and concerns over loss, lead many investors to shy away from international diversification.

Finally, political and economic turmoil can be a very real concern for the investor contemplating international diversification. The recent financial crisis in Mexico is one example of the impact political or economic volatility can have on financial assets within a country.¹⁷⁵ Such crises will inevitably dissuade a significant number of U.S. investors from investing abroad. Indeed, political concerns at home can also affect international ventures. Conoco Oil's recent joint venture with Iran was blocked when the Clinton Administration decided to issue an executive order prohibiting the deal.¹⁷⁶

All of these concerns are real and certainly help to explain why so many U.S. investors fail to diversify internationally despite studies showing that such diversification can be of great value to optimal portfolio creation. However, they are also often overstated. Note that all of these concerns are essentially nonfinancial in nature. A lack of information on international investment opportunities goes not to the financial desirability of international investment but rather to the issue of determining that desirability in the first place. This implies that if the investor had more information, the international diversification would

173. See Michael R. Sesit, *Big Investors Bemoan Lack of Data on Overseas Firms*, WALL ST. J., Feb. 23, 1995, at C1.

174. SOLNIK, *supra* note 95, at 55-56.

175. See also Bowley, *supra* note 105.

176. In this case, there was little impact on the price of DuPont stock (DuPont is the parent company of Conoco). In fact, DuPont stock rose slightly immediately following the decision to abandon the project. Bill Nichols & Lee M. Katz, *Clinton Halts Conoco's Oil Deal with Iran*, U.S.A. TODAY, March 15, 1995, at A1.

ensue. This does not attack the validity of empirical studies which show that international investment can significantly reduce portfolio risk. Indeed, such a concern seems to admit such benefits. The investor is saying: "I believe that international diversification can reduce portfolio risk, but I need more information to determine exactly which assets to invest in."

Concern over foreign regulations can be attributed to a desire to avoid unnecessary headaches in structuring international investment. Further research reveals, however, that most foreign regulation of investment applies only to investors who are citizens of the given country. Outside investors are rarely subject to the majority of regulations.¹⁷⁷ In addition, regulatory barriers to foreign investment have declined considerably as financial analysts across the world discover the benefits of international investment.¹⁷⁸

Finally, concerns over nationalization or political instability, while seemingly financial, also go to the peace of mind associated with avoiding unfamiliar capital markets. This is true because nationalization or radical currency devaluation rarely occurs without warning. For example, investors in developing countries know that nationalization may be a real concern. The risk of nationalization, or any other conceivable financial problem, is therefore already worked into the risk of the assets. Stated differently, when one considers the risk of investing in an international asset, the risks inherent with investing in countries where political or economic turmoil could affect returns are already worked into the risk of the asset. This explains why many foreign government bonds are considered more risky than U.S. government bonds.¹⁷⁹ The financial risks are already worked into the data the investor considers when deciding to invest. Admittedly, situations do occur which are sufficiently unpredictable as to avoid detection in risk assessments. However, the real question is whether events which are so unlikely to occur that no significant number of financial analysts considered them can justify the complete abstinence of the U.S. investor from international diversification. Clearly the answer is no, and the highly risk averse investor could look to proven foreign capital markets with little or no history of such crises. One should also remember, when assessing the volatility of a foreign capital market, that one need only look back to October, 1987, to see that even U.S. capital markets are subject to the risk of unpredicted, disastrous financial events.

177. SOLNIK, *supra* note 95, at 55-56.

178. *Id.*

179. Bowley, *supra* note 105.

International investment is therefore an important part of any diversification strategy. Studies have shown that international diversification can reduce risk significantly with no reduction in return. Although there are several reasons why many investors have not taken advantage of international diversification, these reasons go mainly to nonfinancial concerns. International diversification is by and large a prudent investment strategy.

B. International Investment and the Prudent Investor Rule

The trustee has an important stake in the ability of international diversification to lower portfolio risk. Recall that the trustee is under a duty to manage the wealth of the trust as a prudent investor would. It is less than clear, however, exactly what this means in the context of international diversification. This Part will look again to the Third Restatement of Trusts and determine exactly what duties it does and does not impose on the trustee regarding international investment opportunities.

Recall from Part II that the Third Restatement of Trusts is devoted solely to the new Prudent Investor Rule. The text of the Rule, as embodied in Section 227, imposes several duties on the trustee. A trustee must "invest and manage the funds of the trust as a prudent investor would"¹⁸⁰ and "has a duty to diversify the investments of the trust unless, under the circumstances, it is prudent not to do so."¹⁸¹ The standard "is to be applied to investments not in isolation but in the context of the trust portfolio and as a part of an overall investment strategy."¹⁸² The strategy in turn "should incorporate risk and return objectives reasonably suitable to the trust."¹⁸³

The Rule requires a trustee to create a portfolio of assets through which to diversify the funds of the trust. The trustee is then under a duty to invest those assets as a prudent investor would. Modern portfolio theory shows that a prudent investor will do one thing when assembling a portfolio of assets: she will maximize the reward-to-variability ratio for a given level of risk aversion.¹⁸⁴ This means that a trustee has a

180. REST. 3d, *supra* note 3, § 227.

181. *Id.* § 227(b).

182. *Id.*

183. *Id.* § 227(a).

184. Which, as explained *supra* part IV.D., is the following term:

$$\frac{E(r_p) - r_f}{\sigma_p}$$

duty, as imposed by the Prudent Investor Rule, also to maximize the reward-to-variability ratio of the trust portfolio for a given (and presumably prudent) level of risk. In so doing, a trustee as a practical matter must, and legally is under a duty to, analyze the return and risk data available on potential investment vehicles. The analysis of these assets must be carried out with the overall portfolio risk in mind and not simply by looking to the riskiness of the asset in isolation. A trustee who follows these steps when forming a portfolio for the trust funds has complied with his duties under the Prudent Investor Rule.

Equally enlightening, however, is a consideration of the duties which the Prudent Investor Rule does not impose on a trustee. A trustee is not under a duty to speculate and manage actively the assets of a trust in the way a broker would. Rather, the trustee is encouraged to pursue passive strategies, such as investing in a mutual fund which mimics the returns of the stock market as a whole.¹⁸⁵ A trustee is not under a duty to invest automatically in every asset which might contribute somewhat to the reward-to-variability ratio. Rather, the trustee is to consider the overall purposes of the trust when analyzing risk and return data. Indeed, the terms of the trust may prohibit certain investments even though they would be prudent otherwise.

These duties, and lack of duties, have important results in the context of international diversification. The Prudent Investor Rule does not require a trustee to invest in every international asset which he determines may contribute to the trust portfolio's reward-to-variability ratio. The Prudent Investor Rule likewise does not require a trustee to pursue a high risk, active international investment strategy, attempting to exploit market inefficiencies between the world's various capital markets. These strategies, which may actually lead to a higher reward-to-variability ratio, are nevertheless not required by the Prudent Investor Rule. A trustee is to safeguard the assets of the trust, and a trustee is encouraged to pursue passive, but prudent, investment strategies when investing the funds of the trust. This does not mean, however, that the Rule imposes no duties on a trustee regarding international diversification.

The Prudent Investor Rule requires, at a minimum, that a trustee *consider* international investment opportunities when forming a portfolio of trust funds. This is so because a trustee must diversify the wealth of the trust "as a prudent investor would." The preceding Part illustrated

where $E(r_p)$ is the expected return on the portfolio, r_f is the return on risk-free assets, and σ_p is the standard deviation of returns on the portfolio. Sharpe, *supra* note 160, at 122.

185. See REST. 3d, *supra* note 3, § 227 cmt. h.

how international diversification can lead to significant reduction in portfolio risk. Therefore, a trustee would be breaching his duty to act as a prudent investor if he were completely to ignore international investment opportunities. A trustee may eventually decide not to invest in a particular international asset, but he must at least consider such investment before rejecting it out of hand.

In considering an international asset, a trustee has a duty to look to the expected return and variance of return data available to him. He should look at the data in the context of an overall portfolio. In addition, a trustee should probably also look to the nonfinancial reasons given above which explain why so many investors have refrained from international investment. After weighing all of the considerations, the trustee is then in a position to decide whether to invest in the international asset. It is likely that after thorough and fair analysis of international investment opportunities that the trustee will decide in fact to pursue international diversification. If he decides not to diversify internationally, he should be prepared to document and defend his reasons for declining to enter into an investment area which studies have shown can decrease risk by as much as twenty to forty percent.

In summary, the Prudent Investor Rule probably does not impose an absolute duty on every trustee to invest in international investment vehicles. However, considering the overwhelming portfolio benefits which international diversification can provide, the Rule almost certainly imposes a duty on the trustee at least to consider seriously such investment vehicles. The trustee should look to risk and return data and to other concerns before rejecting any international investment opportunity and in addition should be prepared to defend any such rejection.

CONCLUSION

The purpose of this note has been to illustrate the duty of trustees to consider international investment opportunities when investing and managing the assets of a trust. The basic role of the trustee is that of fiduciary. The trustee holds legal title of the trusts assets and must hold them for the benefit of the beneficiaries. Indeed, a trustee must not merely hold the assets but must in fact make productive use of them. The common law fashioned a rule known as the Prudent Investor Rule, which charged the trustee with the duty of investing the assets of a trust in the same way as a "man of prudence" would. This Rule has undergone some changes, and in 1993, the American Law Institute released the Third Restatement of Trusts, which was devoted solely to the revision of the Prudent Investor Rule.

The Rule was revised to take into account recent gains in financial theory, particularly the development of modern portfolio theory. Modern portfolio theory holds that the risk of any asset must be determined, not alone, but in the context of a well diversified portfolio. The interaction of stocks in a portfolio leads to the primary benefit of diversification: elimination of firm-specific risk. Using modern portfolio mathematics it is possible for a modern investor to create an optimal complete portfolio, consisting of risk-free assets, and an optimal risky portfolio. The proportion of wealth invested in the risk-free assets is determined by the level of risk aversion of the investor, but the composition of the optimal risky portfolio is independent of such concerns.

International investment opportunities can lead to the maximization of the reward-to-variability ratio, which creates the optimal risky portfolio. Because international and foreign investment vehicles are often less sensitive to macroeconomic factors in the United States, the interaction between domestic and international investment vehicles may lead to the optimal risky portfolio.

A prudent investor will always form an optimal risky portfolio because to do otherwise would be an inefficient investment strategy. Trustees, who under Section 227 of the Third Restatement of Trusts are under a duty "to invest and manage the funds of the trust as a prudent investor would," must also therefore look to form the optimal risky portfolio. Sometimes this will require investing in international and foreign investment vehicles. Although many investors may still fail to notice investment opportunities outside of the United States, the modern trustee has a duty to consider such opportunities. It is inexcusable for a modern trustee not at least to look to other capital markets when forming an optimal portfolio, for international and foreign investment opportunities may in fact be necessary to form a prudent portfolio.