

I.F.R.S. / U.S.G.A.A.P.
&
The 2007 Financial Crisis

Dennis J. Dickinson, C.P.A
Georgia Perimeter College
770-274-5164

I.F.R.S. / U.S. G.A.A.P.

- This is an abbreviated course covering some of the major differences between IFRS & US GAAP. It is not intended to cover the entire subject, but will provide you with a working knowledge of some of the more commonly encountered transactions. Specifically excluded because of their complexity (time) are:
 - Defined Benefit Pension accounting
 - Employee stock compensation
 - Business combinations
 - Consolidating financial statements

Background

The increase in the number and size of global companies and the volume and complexities of their accounting transactions has made it increasingly more important that financial markets anywhere in the world understand the accounting reports that these companies are issuing.

Background cont'd...

- Capital follows transactions, so that as transactions have crossed borders, the capital has also changed hands. Capital, in all its forms and denominations, at some point requires repatriation when it passes through the banking and taxing systems. The banking and taxing rules vary from country to country which causes an increasing need for some form of uniformity.

Background cont'd...

- In addition to the flow of capital through the banking and taxing systems around the globe, the shifting global economic platform has also fed the need for more accounting uniformity.
- Currently, the U.S. is still the dominant economic engine in the world, but the creation and economic rise of the EU as well as the growth in China and India have

Background cont'd...

enabled them to exert more and more influence on how financial data should be calculated and presented.

> At the heart of all this is the underlying realization by everyone that more uniformity in Accounting Standards will save time and reduce costs.

Why The Differences?

- Accounting has been around for a long time, so the rules have evolved over a long time. The reasons for the differences are many, but, for the most part, can be attributed to:
 - Culture
 - Taxation Rules
 - Legal System
 - Business Complexity
 - National Association (war & conquest)
 - Capital Sources (individuals/institutional)

Are The Differences Significant?

- Some of the differences can create substantial variations:
 - Substance/Form:
 - Where presentation dominates the rules, the same transactions will vary considerably from where substance rules
 - Asset Revaluations:
 - Routine asset revaluations can impair or lose comparability

Are The Differences Significant? Cont'd...

- Taxation - Based Accounting:
 - In those countries where form and content is driven by tax revenue considerations, the accounting rules are not truly accounting, but tax rules.

International Rules Development

- The International Accounting Standards Committee (IASC) was formed in June, 1973 by the professional accounting bodies in the UK, US, France, Germany, Australia, Ireland, Canada, Mexico, Japan and The Netherlands.
- Major milestones:
 - Published 1st International Accounting Standard (IAS) in 1974; Conceptual framework in 1989 and established Standards Interpretation Committee (SIC) in 1997.

International Development cont'd...

- In March, 2001, the IASC restructured and changed its name to the International Accounting Standards Board (IASB).
- Originally, the IASC had 3 objectives:
 1. Develop understandable & enforceable global standards with transparency & comparability
 2. Promote their use
 3. Promote convergence of Int'l Standards.

International Development cont'd...

- With the formation of the IASB, a Fourth objective was added:
 4. Ensure the needs of emerging economies and small and medium-sized entities are realized.

IASB

- The IASB is structured similar to the FASB here in the United States with a 14 member board (the Board) that sets the accounting standards:
 - The International Financial Reporting Interpretations Committee (IFRIC), 14 members, develops the accounting standards for Board approval.
 - The 40 member Standards Advisory Council (SAC), provides advice to the Board on technical issues, etc.

IASB cont'...

- 22 Trustees oversee the IASB and appoint the Board, IFRIC, and SAC. (This is akin to the Financial Accounting Foundation in the U.S.)
- The IASB issues standards called International Financial Reporting Standards (IFRS).

IFRS

- Currently, the IFRS are not accepted “standards” throughout the world, but are permitted as alternative standards in an increasing number of countries.
- Although not yet completely accepted as standards, activities over the past 9 years have moved the worldwide accounting profession closer to one voice.

IFRS Implementation

- Milestones toward a full set of true International Standards:
 - 2000...the International Organization of Securities Commissions (IOSCO) recommended its member bodies permit IFRS for filings among countries. The US SEC is a member of IOSCO.
 - 2002...the Canadian SEC permitted filings in Canada without any required reconciliation to Canadian Standards.

IFRS Implementation cont'd...

- 2002... the European Union adopted regulations for publicly traded companies to use IFRS no later than January, 2005.
- 2002... the Australian Financial Reporting Council also endorsed acceptance by January, 2005.
- 2002... the FASB & IASB issued the “Norwalk Agreement” of understanding as a commitment to converging US & IFRS.

IFRS Implementation cont'd...

- This agreement was reaffirmed in 2005, updated in 2006 and a significant progress report was issued in 2008. Also, 2010, 2011 & 2012 will see IFRS adoption in Brazil, India, Canada & Korea.

IFRS Implementation cont'd

- 2005... the IASB & FASB issued a joint exposure draft on business combinations (purchase method).
- 2006... the FASB & IASB reaffirmed the Norwalk Agreement & set out milestones through 2008 for the IASB & SEC.
- 2007... the SEC approved Registrants using IFRS issued by the IASB
- 2008... IASB & SEC issued a work plan through 2011.

IFRS Implementation cont'd...

- 2008... the SEC issued Release #33-8982 that set out a path to the required use of IFRS by US Registrants starting in 2014.
 - In 2011, the SEC will decide whether required use of IFRS will be phased in between 2014-2016. This release also set out seven occurrences which would affect its decision to require IFRS use.

IFRS Implementation cont'd

- The SEC's steps to IFRS use:
 - Continued improvements in IAS
 - Improved accountability & funding for the IASC Foundation
 - Improving ability to use interactive data for IFRS reporting
 - US education & training on IFRS

SEC Steps cont'd...

- Some limited early use of IFRS to assess the comparability & adoption process
- The timing of future SEC rulemaking
- A plan of implementation & possible staging.

Although there is currently no official requirement to use IFRS, clearly, US Registrants will undoubtedly use them in the near future.

IFRS – US GAAP

- Language is the tool we use to communicate, but it is an imperfect tool. There are wording variances between IFRS & US GAAP (IFRS is 1st):
 - Debtors-Accounts Receivable
 - Creditors-Accounts Payable
 - Share Capital-Common Stock

IFRS – US GAAP cont'd...

- Stocks-Inventory
- Share Issue Premium-Additional Paid-In-Capital
- Outside Interests-Minority Interests
- Revenue Reserves-Retained Earnings
- Trading Profit-Operating Profit

IFRS - US GAAP cont'd...

- The IFRS, like US GAAP, require the presentation of the four basic financial statements:
 - Balance Sheet
 - Income Statement
 - Cash flow
 - Equity Changes

IFRS - US GAAP cont'd

- Although the basic required statements are the same, IFRS requires comparative presentation while there is no such requirement under US GAAP.
- Note:
 - The S.E.C. does require comparative statements (current + two comparative).

IFRS - US GAAP cont'd...

- There are presentation variances between the two sets of rules.
 - Balance Sheet - under US GAAP, we present the balance sheet in the accounting equation format $A=L+C$; under IFRS, they are presented in the same basic order, but assets & liabilities are listed in the increasing order of liquidity rather than decreasing as in the US.

IFRS - US GAAP cont'd...

- Income Statement - under both, revenue and expenses are essentially recognized & recorded the same (revenue when earned & expenses under the matching concept of recording expenses in the same time bucket as the revenue that they generated). Revenue is earned when title passes on goods sold or when services are provided.

IFRS - US GAAP cont'd...

- However, under IFRS income & expense are not segregated as to whether arising in the ordinary course of business or not (no extraordinary items).

IFRS - US GAAP cont'd...

- Cash Flow Statement - under IFRS, interest paid and interest and dividends received are usually classified as operating activities; however, they may be shown as financing & investing activities, respectively. Also, under IFRS, investing & financing activities not using cash (assets for debt), are not shown. They are displayed at the bottom of US cash flow statements.

IFRS - US GAAP cont'd...

- Equity Changes - under IFRS the components of comprehensive income are not permitted in the statement of equity changes. They are shown either on a separate statement of comprehensive income on the income statement or as part of two statements (income statement & statement of comprehensive income).
 - See Commercial Metals

IFRS - US GAAP Classified Balance Sheet

- Essentially the rules for accounting for accounts receivable are the same. However, when dealing with the sale of A/R, if the sale is with recourse it might not qualify as a sale in the US if control has not been surrendered (transferred out of reach of seller; transferee can pledge freely; no required repurchase agreement). It is possible IFRS could handle differently.
 - See Commercial Metals

Classified Balance Sheet cont'd...

- Inventory:
 - Cost flow:
 - Under US GAAP, F.I.F.O., L.I.F.O. & Average Cost may be used. L.I.F.O. is no longer permitted under IFRS.

Classified Balance Sheet cont'd...

- Inventory cont'd:
 - Valuation:
 - Under both IFRS & US GAAP, Net Realizable Value (NRV) is defined as sales proceeds less any additional costs to complete & sell.
 - Under US GAAP inventories are carried at the lower of cost or market (replacement cost), not to exceed NRV. In the US, NRV has a lower limit of sales proceeds less any additional costs to complete & sell less a normal profit margin. This lower limit does not apply for IFRS.

Classified Balance Sheet cont'd...

- Inventory cont'd:
 - Valuation cont'd:
 - With this variance, when replacement cost is below the upper ceiling of NRV in the US, there will be a different carrying value under the two rules. Also, under US GAAP, if inventory is written down under the lower-of-cost-or-market rules, it cannot be reversed if market conditions change. The IFRS calls for reversal.
 - » See examples

Classified Balance Sheet cont'd

- Inventory cont'd:
 - Valuation cont'd:
 - Under IFRS rules, the write down is on an item by item basis and prohibits the write-down of an overall category e.g. finished goods. US GAAP permits category write downs.

Classified Balance Sheet cont'd

- Marketable securities:
 - Marketable securities fall into several categories:
 - 1. Held-To-Maturity (HTM):
 - Fixed determinable payments & fixed maturity
 - » Recorded at amortized cost under the effective interest method (giving consideration to premiums & discounts). If more than an insignificant amount are sold prior to maturity, they must be reclassified to Available-For-Sale at FMV and held so for 2 years. (under US GAAP, the 2 years only applies to Public Companies).

Classified Balance Sheet cont'd

- Marketable securities cont'd:
 - 2- Trading Securities:
 - Debt & equity instruments that are held to be sold in the short term (includes non hedging derivatives). Under IFRS & US GAAP, these are carried at FMV with realized & unrealized gains shown on the income statement.

Classified Balance Sheet cont'd

- Marketable Securities cont'd:
 - 3 - Available-for-Sale-Securities:
 - These are debt & equity instruments that are not in the previous two categories and they are carried at FMV for both IFRS & US GAAP. Any revaluation adjustments are included in other comprehensive income for US GAAP and directly in equity for IFRS.

Classified Balance Sheet cont'd

- Marketable Securities cont'd:
 - This entire category is undergoing fast track changes as this presentation is being made because the accounting treatment(s) for these categories is one of the contributors to the banking crisis that surfaced in 2007 & 2008. We will look at some of the issues later in this presentation.

Classified Balance Sheet cont'd

- Property, Plant & Equipment:
 - Most accounting standards surrounding this asset category are the same or very similar for IFRS & US GAAP with some exceptions:
 - Revaluation:
 - Under IFRS, these assets may be revalued to their “highest & best use”. Any adjustments are recorded as a “revaluation surplus” in the equity section. Accumulated depreciation can be adjusted proportionately so NBV equals the revaluation or eliminated against the gross amount of the asset.

Classified Balance Sheet cont'd

- PP&E cont'd:
 - Revaluation cont'd:
 - Once an asset is revalued, its carrying value must be revisited annually. Also, if a revaluation is done, disclosures include:
 - » Effective date
 - » The methods & assumptions used
 - » Whether an independent valuer was used
 - » For each revalued asset class, a reconciliation to the carrying value @ cost (if more than one class is revalued)

Classified Balance Sheet cont'd

- Investment Property:
 - Under IFRS, investment property may be carried at cost or “fair value”. If it is carried @ cost, then fair value must be disclosed. The disclosures under FV are similar to those for PP&E revaluation disclosures. Value adjustments are recognized on the income statement as incurred. US GAAP carries investment property @ depreciated cost.

Classified Balance Sheet cont'd...

- Leases:
 - The issue surrounding leases is whether the lease is a “Capital Lease” (US GAAP) or an “Operating Lease”. Under IFRS, capital leases are called “Financing Leases”. The IFRS lists 8 criteria that could lead to a lease being treated as a financing lease:

Classified Balance Sheet cont'd...

- Financing criteria:
 - 1. Ownership transfers (in US GAAP)
 - 2. Bargain purchase option (in US GAAP)
 - 3. Term for major portion of asset life (in US GAAP)
 - 4. PV of lease payments equals substantially all of the FV of the asset (in US GAAP)
 - 5. Assets are specialized so only lessee can use (not in US GAAP)
 - 6. Gains & losses in FMV of asset are reported by lessee (not in US GAAP)
 - 7. Lessor's cost on cancelled lease is borne by lessee (not in US GAAP)
 - 8. Lessee can lease for secondary period below market rent (not in US GAAP)

Classified Balance Sheet cont'd

- Criteria cont'd:
 - Overall, although 1-4 criteria are very similar to the US capitalization criteria, they are slightly different. Also, if you closely examine the two sets of standards, the US tends to apply more specific numerical values to determining capitalization while the IFRS takes a more interpretive approach.
 - Because of the variances, a lease could be a capital (financing) lease under one set of standards, and an operating lease under the other.
 - Although categorization could be different, disclosures are very close to each other (min payments, etc.).

Classified Balance Sheet cont'd...

- Leases cont'd:
 - When a lease covers both land and building, again the US GAAP is more numerically driven (they are treated as one if the land value is less than 25% of the value of the leased property. Under IFRS there are no specific calculations, but they are treated as one if the cost allocated to the land is “immaterial”).

Classified Balance Sheet cont'd...

- Leases cont'd:
 - There are other areas covered by US GAAP & not by IFRS: termination; leases between related parties; renewal and subleasing. Currently the IASB is working on additional standards for leases that will make extensive changes to accounting for leases by both lessors & lessees.

Classified Balance Sheet cont'd...

- Intangible Assets:
 - Under both US GAAP & IFRS, to be recorded on the books, the cost of the asset must be measurable and it is expected that the future economic benefits will accrue to the entity. Also, under both, those intangibles that have a finite life are amortized over that life. Those with an indefinite life (e.g. trade names) are not amortized.

Classified Balance Sheet cont'd

- Intangibles cont'd:
 - Under IFRS, intangibles may be revalued, but there must be an active market for the asset(s). With this restriction, most of these will not be revalued. The impact from any revaluation is recorded to the “revaluation surplus” section of equity (like PP&E). If a revaluation is done, then it must be revisited annually.

Classified Balance Sheet cont'd...

- Intangibles cont'd:
 - Although not truly an intangible, the IFRS rules for accounting for R & D are covered under this section.
 - Under US GAAP, all R & D is expensed
 - Under IFRS, the rules are similar to the original FASB rules in that IFRS splits the costs into a research phase & a development phase.
 - Costs during the research phase are expensed while those during the development phase are capitalized.

Classified Balance Sheet cont'd...

- Intangibles cont'd:
 - R & D cont'd:
 - The development phase is essentially when it is reasonable to assume a marketable product will result. This is determined by looking at the intention to complete & sell; the ability to do so; measurability of R & D costs to complete, etc.

Classified Balance Sheet cont'd...

- Intangibles cont'd:
 - Goodwill:
 - The goodwill generated from a business combination is treated the same under US GAAP & IFRS in that it is capitalized but not amortized. Under both, impairment is examined at least annually.

Classified Balance sheet cont'd...

- Impairments:
 - PP&E:
 - Under both US GAAP & IFRS, the signs of a possible impairment are similar (significant market decline; technological changes; obsolescence, etc.). If any of the signs indicate an impairment, under IFRS the carrying value of the asset is compared to its recoverable amount under the NPV of future cash flows or net selling price.
- cmc pp46

Classified Balance Sheet cont'd...

- Impairments cont'd:
 - PP&E cont'd:
 - Under US GAAP the carrying value of the asset is compared to the undiscounted future cash flows to see if an impairment exists. If they are less than the carrying value, then a loss will occur.
 - Obviously, with the variance is the two calculations, their could be an impairment under one method and not the other.
 - This is an the FASB & IASB examining currently.

Classified Balance Sheet cont'd...

- Impairments cont'd:
 - PP&E cont'd:
 - Under IFRS, a previously recognized impairment can be reversed under certain circumstances, but it cannot be carried at a value greater than the net book value that it would have had no impairment been recognized.
 - Under US GAAP no reversal of impairment is permitted.

Classified Balance Sheet cont'd...

- Impairments cont'd:
 - Goodwill:
 - Under both IFRS & US GAAP, goodwill is tested annually to determine if an impairment has occurred. Under IFRS, the impairment is tested at the cash generating unit level. Under US GAAP, the test is done at the reporting unit level. Since the reporting unit level is usually higher than the cash generating level, impairment could be less under US GAAP.

Classified Balance Sheet cont'd...

- Impairments cont'd:
 - Deferred Tax Assets:
 - Under US GAAP, DTA are recorded at their gross amount and a valuation allowance would be used to reflect any of the amount that might not be realized.
 - Under IFRS, the DTA are recorded at their expected recoverable amount (sufficiency of future profits).
 - Both methods would show the same net amount although the presentation would be different.
- cmc pp 56

Classified Balance Sheet cont'd...

- Liabilities:
 - Contingent Liabilities:
 - Under both US GAAP & IFRS, a liability needs to be recorded if it is probable that a liability has been incurred and the amount can be reasonably estimated. However, probability under IFRS is a likelihood $>$ than 50% while US GAAP threshold is higher (as high as 80%). Because of the difference in probability measurement, there could be differences between IFRS & US GAAP.

Classified Balance Sheet cont'd...

- Liabilities cont'd:
 - Deferred Taxes:
 - Under US GAAP deferred tax assets & liabilities are classified as current or long-term based on the classification of the asset or liability that created the tax.
 - Under IFRS, all deferred tax assets & liabilities are classified as long-term.
 - Also, recall that IFRS records these at net recoverable values vs gross less an allowance under US GAAP.

Classified Balance Sheet cont'd...

- Liabilities cont'd:
 - Convertible Debt:
 - Where the debt can be split (detachable warrants, etc.) both IFRS & US GAAP require the accounting for each component (debt & equity) separately.
 - When the debt cannot be split, US GAAP records it as debt. At conversion, either the book value or fair value method of allocation is used (book value of bonds converted or fair value of stock issued). When fair value is used, a conversion loss on the income statement is common

Classified balance Sheet cont'd...

- Liabilities cont'd
 - Convertible Debt cont'd:
 - When the debt cannot be split, IFRS accounts for it on a split basis. The liability is recorded at fair value and the equity portion is the residual value.

Classified Balance Sheet cont'd...

- Liabilities cont'd:
 - Pensions:
 - The accounting for pension expenses, liabilities & assets is a complex subject under both US GAAP & IFRS. It is a highly specialized area of accounting that exceeds the time available for this presentation except to note that there are several differences in accounting

Changes in Estimates, Principle & Error Corrections

- Changes in Estimates:
 - Both IFRS & US GAAP account for estimate changes prospectively with no restatements of any prior periods presented. With the issuance of FASB ASC 250, US GAAP accounts for a change in depreciation method as a change in estimate.

Changes in Estimates, Principle & Error Corrections cont'd...

- Error Corrections:
 - Under both IFRS & US GAAP, error corrections are accounted for by a cumulative adjustment to beginning retained earnings (net of tax) of the earliest period presented and a restatement of prior periods presented.

Changes in Estimates, Principle & Error Corrections cont'd...

- Changes in Principle:
 - With the issuance of FASB ASC 250, both US GAAP & IFRS account for principle changes with retroactive application. Prior to 250, US GAAP reported the cumulative effect in current year income (separate line, net of tax) with no restatement, but the pro-forma impact would be shown for all prior periods presented.

Changes in Estimates, Principle & Error Corrections

cont'd...

- With ASC250, both US GAAP & IFRS account for these changes by adjusting beginning Retained Earnings by the cumulative effect (net of tax) of the change and restate all prior periods presented.

Changes in Estimates, Principle & Error Corrections

cont'd...

- US GAAP & IFRS both account for error corrections by adjusting beginning Retained Earnings (net of tax) and restating prior periods presented.

Discontinued Operations

- Under IFRS & US GAAP the results (net of tax) from discontinued operations are shown on the Income Statement.
- Under IFRS the assets & liabilities of discontinued operations must be shown separately on the Balance Sheet or in the notes. Discontinued cash flow is treated the same.

Discontinued Operations cont'd...

- Currently, both the IASB & the FASB are working on proposals that will ensure these items be treated the same under IFRS & US GAAP.

Derivatives

- The accounting for derivatives & hedges (next segment) can be extremely complex and we will discuss these only as an overview.
- IFRS & US GAAP define derivatives as financial instruments with the following characteristics:
 - Require little or no initial investment
 - Its value changes based on security price, index, interest rate or similar variable
 - It is settled at a future date

Hedges

- Both IFRS & US GAAP define hedges as fair value hedges and cash flow hedges.
- Fair value hedges are hedges in the value of an underlying asset.
- Cash flow hedges are hedges on the amount of future cash flow from an underlying asset.

Hedges cont'd....

- As a general overview, under IFRS & US GAAP, changes in value for fair value hedges are recorded as income/loss and usually offset the increase/decrease in the fair value of the underlying asset.
- With a cash flow hedge, changes in overall estimated cash flow are shown in Comprehensive income and actual changes (realized) are accounted as gains/losses on the income statement.

Hedges cont'd

- The complexities involved in the accounting for derivative & hedging financial instruments can be seen by the fact that the IASB & the FASB have published over 200 questions & answers pertaining to these areas. As of this writing, rules for both areas are still being revised and or specifically applied.

Derivatives cont'd...

- Although the definition of a derivative is the same under IFRS & US GAAP, under GAAP, to be a derivative, the contract must permit settlement at the instruments net value. Thus a stock option which can expire by itself would be a derivative under both, but a commodity contract that can only be settled by delivery would be a derivative under IFRS, but not under US GAAP.

Financial Turmoil 2007-2008

- With the PCOAB, SEC, Accounting Profession, Federal Reserve, etc. all monitoring financial transactions & reporting, how could the 2007/2008 financial turmoil & failures occur?

2007 cont'd...

- As with any systemic financial turmoil, the causes are many and far reaching. Typically, they include all the usual suspects:
 - Rule changes
 - Fraud
 - Greed
 - Legislative lapses
 - “Bullet Proof” mentality
 - Financial segment imbalance, etc.

2007 cont'd...

- In 2007/2008, the consensus is the financial turmoil in the banking/financial markets was caused by the “collapse” of the housing market. Although it is true that this market collapsed, the real question is why did this unprecedented decline occur? Most of the current thinking attributes the decline to the large number of sub-prime loans that were made. The real question is why were they made?

2007 cont'd

- Freddie Mac & Fannie Mae are companies created to enable banks & mortgage companies (B & M's) lend more for home mortgages. This is accomplished by Freddie & Fannie purchasing mortgage loans from B & M's and replenishing their cash to lend again. Fannie & Freddie then sell bonds & equities in the open market. Both entities receive beneficial tax treatment to assist their efforts.

2007 cont'd...

- Fannie & Freddie were public companies and their bonds are, mostly, collateralized by the mortgages that they hold, which in turn are collateralized by the underlying real estate (Collateralized Debt Obligations...CDO's). The favorable tax treatment they receive fuels their growth & the growth of home mortgages.

2007 cont'd...

- The system was successful in driving the US forward with the largest home owning middle class in the world. The system functioned well because it was based on responsible financial principles. The foundation of the system (the mortgage borrower) was financially capable of servicing the loan, and loans were not granted to persons that could not meet prudent guidelines.

2007 cont'd...

- In the mid 1990's Freddie & Fannie were empowered by Congress to purchase mortgage loans made by B & M's to persons that were financially less capable than had formerly been the norm. The objective was to expand home ownership to the lower middle class and even somewhat lower than that level.

2007 cont'd...

- This relaxation of the loan qualifying requirements greatly accelerated the demand for housing. The increased demand caused the entire industry to ratchet upward. Middle class homeowners bought larger, more expensive homes with higher debt leverage and second homes, also with high leverage.

2007 cont'd

- The middle class was also looking for homes and the construction continued to accelerate.
- As with most perfect storms, other events occurred that were seemingly somewhat unrelated at the time;
 - In 1995, the Glass-Steagall Act was repealed
 - Accounting rules were being developed along more international lines (more market oriented)

2007 cont'd

- The Glass-Steagall Act was depression era legislation that separated commercial banks from brokerage companies & investment banks. Its repeal allowed commercial banks to invest in assets that were typically held by investment banks & mortgage companies (many of these were derivative investments such as CDO's).

2007 cont'd...

- Banks & investment banks began to borrow money against mortgage receivables they held on their balance sheets. The growth of the housing industry and the relaxation of loan requirements made the mortgage & mortgage related industry a hot, hot profit driver. The growth of unregulated mortgage brokers & companies exploded in the late 90's.

2007 cont'd

- As the balance sheets began to grow with real estate backed receivables & debt, another element entered the perfect storm:
 - The explosive growth of the mortgage related industry did not go unnoticed by some of the larger investment banks. J.P. Morgan Chase conceived of a financial instrument that would essentially provide relatively inexpensive insurance against the default of a CDO. The Credit Default Swap was created.

2007 cont'd

- The Credit default swap (CDS) was based on sound financial assumptions and priced based on valid underlying techniques. (What was ignored was that the underlying borrower was not truly qualified to carry the base loan.) The creation of the CDO allowed banks, investment banks, brokerage companies & others to leverage their CDO's further because the apparent risk of default was reduced.

2007 cont'd...

- Simply put, a CDS is an agreement where a company (A) has lent money (purchased bonds) to another (B) and another company (D) guarantees A that B will not default on the bonds e.g.
 - A buys \$1 Billion of 9% bonds of B
 - A offers D 10% of the \$90 Million annual interest on the bonds for a CDO
 - D issues the CDS, books \$9,000,000 annual income with a contingent liability.....tempting!

2007 cont'd...

- Since a large portion of the mortgage growth was from ARM instruments with very low initial interest rates, the initial defaults were small. During this explosive growth period, many investment banks & insurance companies were buying up bundled mortgages and through the process of “securitization” selling bonds against the future cash flow to be received from the mortgages. The bond holders would then purchase Credit Default Swaps against the bonds defaulting.

2007 cont'd...

- In a fair number of cases the bundled mortgages were “sold” by the holders to “Special Purpose Entities” that were created specifically to hold the mortgages and sell bonds against them. This enabled the banks & investment banks to take a great deal of the bond liability off their balance sheet. To a lesser extent, some SPE’s were used to issue CDS.

2007 cont'd...

- The system seemed “bullet proof”:
 - The bank held mortgages collateralized by real estate
 - The bondholders held bonds ultimately collateralized by the underlying real estate & guaranteed by another party
 - The CDS issuer had annual income with no balance sheet liabilities

2007 cont'd...

- Everything was fine until the interest rates began to adjust and the unqualified buyers began to default on their payments.
- As these defaults began to grow, the cash flow projections for the bundled mortgages began to decline forcing the carrying value of these assets to decrease.
- These declines caused a domino effect:
 - Shrinking bank capital restricting lending
 - Increasing liability for the CDS issuer

2007 cont'd

- Empty real estate assets that caused inventory imbalances, declining values & accelerated the capital & liability squeeze.
-to be continued!