

# **Research Proposal**

# "Bank Hybrid Capital - An assessment of the market and the principal investment risks"

#### **Introduction**

The market for bank hybrid and subordinated debt issuance has grown considerably over the last decade primarily on the back of regulatory changes introduced in the banking sector. Two of the most important developments in this regard were the introduction of Basel I and the ongoing development of Basel II, both of which set out the instruments that qualify as regulatory capital. As banks worldwide have also undergone considerable growth during this period, retained earnings alone are not sufficient enough to cover growth going forward and share capital issuance can be extremely costly. As a result banks need to issue hybrid instruments to bolster their capital bases and maintain capital ratios. The market for these instruments has become international, liquid and complex.

This research will analyse the characteristics of the market for bank subordinated debt and hybrid issuance and will assess the risks inherent in these instruments. The key question being asked is whether investors are being adequately compensated for the risks that they have assumed. As the market for these instruments has evolved, bank capital has become a popular investment choice and business models centring on this investment strategy have emerged. ISTC is a company that has set this trend in an Irish and perhaps even European context and this company will be used as a central case study throughout the research.

## **ISTC**

In July 2005 the International Securities Trading Corporation (ISTC) was established. It is an unregulated and (currently) unquoted company whose strategy is to invest primarily in bank capital instruments – subordinated debt and other hybrid instruments. While unregulated by any external supervisor ISTC have created a self-regulatory regime and the operations are modelled along traditional banking guidelines. While investment in bank capital will be supplemented by other fixed income investments (i.e. in asset backed securities and structured investment vehicles (SIV's)), these investments aide primarily to provide some diversification to the portfolio. The driver of the investment strategy is the acquisition of hybrid bank capital instruments, and these, in the most part, will be held to maturity.

The rationale for the investment in bank capital has merit. It is seen as an investment in a stable, regulated market for which default experience has been relatively rare. The subordination of the investments and/or the equity like characteristics ensure that the spread earned by the investor vis-à-vis an investment in the senior debt of any given entity is greater. Within ISTC all interest rate risk and currency risk is fully hedged. The only material risk envisioned by the company is credit risk and as noted above default experience in the banking sector is rare.

To increase the return for shareholders and investors the private equity raised when ISTC was established has been significantly leveraged through borrowings in the interbank and debt capital markets.

The significant growth that ISTC has experienced in a relatively short timeframe in addition to the impressive levels of private equity raised for an entity with no track record (the  $\notin$ 165m raised was the largest ever equity funding for a new venture) has meant that ISTC has been one of the most talked about start up companies in the Irish market. The company's current market capitalisation is a staggering  $\notin$ 0.9bn. In the company's first annual report released to the market in November 2006, ISTC have also noted that the company may seek a listing on the Irish stock exchange as early as 2008. All of these things combine to demonstrate that a thorough review of the strategy adopted by ISTC will provide a meaningful and topical piece of research. Is the strategy adopted by ISTC sustainable and is the current valuation of the company justified or simply a reflection of market hype?

#### **Rationale for this research**

The purpose of this research is to critically evaluate the strategy of investment in bank capital instruments and to assess whether this investment strategy is sustainable in the long term. The research will outline and discuss the potential weaknesses and/or threats to the investment strategy through a detailed examination of the associated risks. A quantitative and qualitative assessment will be made primarily with the interests of the investor in mind. With this in mind a risk/return comparison will be made between an investment in a diversified bank capital/subordinated debt portfolio (the ISTC strategy) and an investment in a diversified portfolio of banking stocks with similar underlying sector profile. The question that will need to be answered is whether or not investors in hybrid capital are being adequately rewarded for the risks that are being taken on.

The research will begin with a detailed analysis of the market for bank capital instruments. This will detail the evolution of the market over the last 10 years and outline how the nature of the instruments that banks have issued have changed as the market has evolved. The Basel Committee on Banking Supervision issued a working paper in 2003 assessing and detailing the markets for bank subordinated debt and equity in its member countries. This paper will bring this analysis up to date by looking at issuance over the last three years, with particular emphasis on the issuance of Irish and UK banks. A point to be examined here is the degree to which increased sophistication in these instruments has introduced new risks to the investor and whether or not these risks have been adequately priced in.

This research will also examine the trends of subordinated debt yields and yields on other hybrid capital instruments in the banking sector. This analysis will be supplemented by a multi-factor model which will look to determine the main drivers of these yields. These workings will draw on the research of Hancock and others who have studied the bank subordinated debt market in the U.S. in considerable detail. These analyses will assist in determining how low subordinated debt yields can potentially go, and hence help determine the minimum (gross) return that ISTC and other investors in bank subordinated debt can earn from this business model. An assessment will also need to be made as to whether bank subordinated debt is accurately valued by the market. In their 2003 paper Hancock et al outline what they call an "incentive premium" that "informed" investors in subordinated instruments earn for holding subordinated debt vis-à-vis senior debt. This premium is in addition to the risk premium that is held that compensates the investor for

the default risk inherent in a subordinated security. The analysis in this paper will update the research conducted by Hancock et al to examine whether this incentive premium still exists within the subordinated debt market. This will assist in determining whether there are any asymmetrical information anomalies within the bank subordinated debt market or whether these have been eliminated as the liquidity of this market has improved.

### **Risks inherent in the investment strategy**

The business model will be critically assessed by analysing the significant risks inherent in the investments.

#### Credit Risk

The most obvious risk facing the investor is the risk that a banking counterparty defaults on its debt. The subordination of the debt naturally magnifies the potential loss on default. This paper will document the actual default experience that has occurred on bank subordinated debt and document the background to the defaults. An important item for discussion and development here is an examination of the credit rating of the defaulting bank prior default. Was default expected and if not what were the catalysts.

The validity of the markets credit assessment of subordinated debt instruments and other hybrid capital instruments has recently been called into question by Moody's Investor Services. Moody's have noted that an increasing proportion of hybrid instruments currently being issued by banks have 'non-cumulative' preferred stock like features. The advantages to the issuer are that the instrument may qualify as regulatory capital for the

purposes of calculating the capital ratios, but the interest payments made to investors may be tax deductible. Moody's discuss another component of credit risk - omission risk that must be considered when evaluating hybrid debt instruments with non-cumulative type features. Omission risk refers to the risk that banks can omit paying the coupon on the debt and the non-cumulative/deferral feature implies that no subsequent payment needs to be made to make up for the missed payment. While this does not technically constitute default, the risk to the investor in these instruments is obvious. This paper will look to incorporate and discuss this recent development in evaluating the risk/return profile from investing in hybrid instruments. While the Moody's technical paper is currently only out for comment, it is probable, according to the technical paper that correctly incorporating omission risk into an assessment of hybrid instruments will more than likely involve a downgrade of such instruments by at least one notch on the credit ratings scale. This development will need to be evaluated in the context of ISTC's investment portfolio. While many market commentators may suggest that the underlying risk has not changed, any re-assessments and/or downgrades by an external rating agency may have material repercussions for ISTC and the price at which it can raise external funding. The degree to which ISTC is leveraged can only be adversely impacted by this development. I will also look to obtain information pertaining to omitted payments and look to see how commonplace this risk is in the market. While the non-payment of coupons would definitely have reputational repercussions in today's marketplace is there a possibility that economic or market factors could change in the future that may lead to adverse developments in this area.

Another important point to make here is that credit spreads, across all major fixed income assets classes, have been trending downwards since 2002. Many market commentators have suggested that there may be pricing discrepancies in the most liquid markets. There are concerns that the credit spreads earned on credit default swaps are out of sync with the spreads earned on the cash bonds of the same reference asset/entity. If credit risk is not being adequately priced in these instruments is the issue magnified for subordinated instruments and how will this market react when the credit cycle turns.

One interesting topic that I would like to pursue as part of this paper is the search for an optimum point on the credit curve from ISTC's perspective. This will be developed as follows: The lower the credit rating of the underlying investment portfolio in ISTC the higher the potential spread earned. This has positive repercussions for ISTC. It is not unreasonable to imply given the relative granularity and transparency of the investment portfolio that the credit rating likely to be obtained by ISTC itself will reflect a weighted average of the ratings of the assets included in its portfolio (albeit that there might be some marginal benefits due to portfolio diversification). Hence this may have negative repercussions for ISTC as the cost at which it can raise funding through market-sensitive wholesale funding will be directly related to this rating.

#### Market Risk

As noted above ISTC have a buy to hold strategy with their fixed income investments. From an examination of the company's annual report approximately 80% of its investments are classified as 'loans and advances to customers'. Hence from an accounting perspective the mark to market gains or losses are not reflected in either the profit and loss account or in equity. As the underlying instruments are not marked-to-market for accounting or reporting purposes, and the company policy is to hedge material interest rate risk and currency risk, you could be forgiven for stating that ISTC are not exposed to market risk on these instruments. In this paper I would be keen to examine whether increased price volatility in these instruments, while not reported from an accounting perspective, could impact how equity and debt investors in ISTC view the risk inherent in these investments and hence the return expected to compensate them. In addition what haircuts will the lenders apply if the instruments become more volatile. The analysis in this paper will focus on how volatile subordinated debt spreads and prices have been in recent years. The multi-factor model used to determine the drivers of these spreads will be used to forecast likely volatility going forward.

Another area to explore concerning the market risk of hybrid capital is the degree to which recent developments in the market have led to more structured based issuance. In recent years, to give examples close to home, Bank of Ireland and Anglo Irish Bank have issued Tier I capital where payments to investors are referenced to a specified Constant Maturity Swap (CMS) rate. New structural developments of this nature add to the complexity of these instruments and to the market risks inherent in them. In addition the hedging of these instruments has become increasingly complex and costly and the potential (relative) illiquidity of the instruments could magnify these issues.

### **Liquidity Risk**

As noted above the market for subordinated bank debt and other hybrid instruments has grown considerably over recent years. Relative to the broader fixed income market, however, the market for hybrid bank capital is relatively new. In Hancock et al (2005) the authors discuss the "premium of illiquidity" paid to investors with respect to the subordinated debt issuance of large U.S. banking organisations. By examining, albeit indirectly, the trading frequency and patterns of subordinated debt issuance, the authors concluded that trading frequency (or the lack thereof) did significantly impact subordinated debt spreads for the period examined and "large gaps between observed prices for a bond significantly increases its spread". To examine why this point is important from ISTC's perspective I will refer to the point made earlier about how ISTC account for the majority of the investments that have been made by the company -i.e. as loans and advances to customers. In paragraph 9 of International Accounting Standard 39 ("IAS39") "Financial instruments: recognition and measurement" an entity is precluded from accounting for a fixed income investment as a loan if the bond is quoted in an active market. This would imply that the portfolio that ISTC have created to date is predominantly composed of illiquid investments or put another way of bonds that are not actively traded. Hancock et al (2005) suggest that the "illiquidity premium" paid by issuers or earned by investors can be as high as 64bps if the interval between quoted prices is greater than two years. While this spells good news for ISTC and other hybrid investors from a net interest margin perspective, an overexposure to liquidity risk, particularly in relation to one sector, could have adverse repercussions in times of market and/or industry distress. The presence of illiquidity in these instruments may also call the

validity of the valuations of these instruments into question and hence whether or not the price adequately compensates the investor for the risk that has been assumed. The analysis will look to ascertain what value is created by buying liquid bonds or alternatively what value is destroyed by holding illiquid investments in times of market turmoil.

In the presence of all of these risks it is important, and it is indeed one of the objectives of this research, to benchmark the return earned from investing in hybrid bank instruments/ subordinated debt to the return earned from investing in other asset classes. An obvious comparison to be made here is the return earned by investing in bank subordinated debt versus investing in bank equity stock. Several papers (i.e. Levonian (2001), Nivorozhkin (2002)) have drawn comparisons between the information content contained in subordinated debt spreads and equity value changes about bank risk. I will look to elaborate on these conclusions and will look to quantify the risk premium that is inherent in bank equity prices over bank subordinated debt prices and to evaluate this premium from an investor's perspective. Via the case study I will look to assess whether the ISTC strategy can be regarded as a leveraged exposure to the banking sector and could the strategy suffer disproportionately large losses if the banking sector deteriorates.

#### Methodology to be used

The research will include both a qualitative and quantitative assessment of the market for bank capital instruments. The quantitative assessment will focus on the pricing of bank subordinated debt and particularly what drives subordinated debt yields. Regression analysis will be used to determine the drivers of subordinated debt yields and coefficients representing the characteristics of the issuing firm (i.e. size, leverage, asset volatility, Moody's DD measure), the characteristics of the issuances themselves (i.e. size, embedded optionality, unusual features) and market characteristics (i.e. liquidity, volatility) will all be examined. Given the recent commentary by Moody's it will be an important part of the research to establish whether the non-cumulative feature of these instruments is accurately priced into the spread (i.e. does this characteristic have statistical significance).

## Conclusion

"The Company's business model is coherent and sustainable, but executing its growth strategy with limited downside risk will be essential to preserve the credit fundamentals underpinning the current rating". This is the assessment made by Dominican Bond Rating Service (DBRS) when they rated ISTC in May 2006. Throughout this paper I will look to examine whether or not the strategy adopted by ISTC and indeed other fixed income investors in this market is sustainable via a thorough examination of the market for bank subordinated debt and hybrid capital and the risks that could adversely impact this market and the business model.

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