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盈餘管理以避免股票信用交易之暫停 研究成果報告(精簡版)

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一、前言

文獻顯示管理當局會針對盈餘數字進行操縱，使報導之盈餘數字或其他指標能符合主管機關的要求(如：Moyer 1990; Beatty et al. 1995; Collines et al. 1995; Adiel 1996; Chen and Yuan 2004)。國內之證券主管機關以每股淨值為門檻，作為上市(櫃)公司股票是否停止信用交易及變更交易方法之標準，這樣的管制方法十分地簡單、明確，但也成為管理當局操縱盈餘以符合規定避免懲罰的誘因。本文利用主管機關之規定，測試投資者對於低於淨值門檻公司之反應，並以分配不連續之方法及盈餘組成項目之條件分配分析管理當局是否盈餘管理，以及進行盈餘管理的方法。

管理當局為了影響以會計數字為基礎之契約結果或誤導使用者對公司經營績效的看法，會運用財務報導過程中及交易安排上的裁決及判斷空間改變財務報告的內容(Healy and Wahlen 1999)。由於國內之證券主管機關以每股淨值門檻作為證券管理的一項指標，使得管理當局產生操縱每股淨值的誘因以規避違反指標時遭受的懲罰。公開發行公司在上市(櫃)後，股票的交易並不需預先備妥資金及券證，而是在實際成交後才進行款券之交割；此外，只要獲利能力達到基本的水準、股價變動程度在合理的範圍內，¹證券主管機關即會賦予該股票為得融資融券交易股票。不過，由於不預先備妥款券將增加成交後不履行的違約風險；信用交易則運用財務槓桿的方法，幫助投資者擴張信用以買入或賣出超過本身資金可投資的股票。因此，公司在取得上述的資格後，證券主管機關仍會定期進行評估，以決定是否繼續給予優惠，以免增加市場流動性的措施遭致濫用而使投資人及股票市場受害。依相關規定當公司之每股淨值低於票面(十元)，證券主管機關將暫停其融資、融券交易；當公司每股淨值低於面額二分之一(五元)，其股票則變更交易方法為須收足款券始得交易。²

若公司每股淨值數字不能達成主管機關規定的門檻，則其股票將無法進行信用交易，甚至必須預收款券始得交易，增加投資者之交易成本、降低公司股價之

¹ 詳見有價證券得為融資融券標準第二條之規定。

² 「有價證券得為融資融券標準」第四條賦予證券交易所及證券櫃檯買賣中心，得在特定條件下暫停上市(櫃)公司股票之融資、融券交易。該辦法第四條第二項共有九款規定，其中與公司財務狀況有關之規定有二款，包括第一款之上市(櫃)股票若其交易方法變更為全額交割股或應先收券款者，及第四款之上市(櫃)股票每股淨值低於票面者。此外，證券交易所及證券櫃檯買賣中心均分別於「臺灣證券交易所股份有限公司營業細則」第四十九條及「財團法人中華民國證券櫃檯買賣中心證券商營業處所買賣有價證券業務規則」第十二條規定，若上市(櫃)公司最近期公告之財務報告顯示淨值已低於實收資本額二分之一者，得列為變更交易方法為全額交割或應先收款券股票。

價值；不僅如此，當公司淨值數字低於十元時，將使財務報表使用者對公司過去經營策略產生疑慮，進而影響對未來前景的看法。在主管機關及投資者對淨值數字的關切下，管理當局將針對淨值門檻進行盈餘管理，以規避未達門檻之負面影響。研究結果顯示管理當局以改變現金流量及營運資金等方法進行操縱，使得報導的每股淨值數字在十元及五元附近呈現不連續之情況。

文獻顯示管理當局會對管制機關的規定進行盈餘管理，以避免違反規定而受到懲罰(Moyer 1990; Beatty et al. 1995; Collines et al. 1995; Adiel 1996)，或取得較為優惠的待遇(Jones 1991; Key 1997; Chen and Yuan 2004)。本文針對國內每股面值一律為十元之規定，探討主管機關證券管理的規定對市場參與者的影響，結果顯示管理當局確實在意報導之每股淨值數字是否高於十元及五元門檻。換言之，證券主管機關的規定造就了管理當局操縱盈餘的誘因；此外管理當局操縱的手法除了應計項目相關的營運資金外，尚有直接影響現金流量的交易。本文除可充實盈餘管理相關文獻外；也可提供證券主管機關制定相關規定及投資者進行股票投資時的參考。

本文其餘內容分配如下：第二節探討淨值門檻相關的規定與盈餘管理；第三節探討每股淨值門檻分配不連續的情況；第四節則進一步研究管理當局進行盈餘管理以避免每股淨值低於門檻之方法。最後則為本研究之結論。

二、淨值門檻的法令規定與盈餘管理

信用交易在證券市場中扮演相當重要的角色。融資、融券交易制度提供投資者一個運用財務槓桿的管道，以降低投資股票市場所需最低的財富標準，進而增加股票市場可參與的人數與可用的資金，促進股票市場的發展；此外，一個健全的信用交易制度，在投資者過度樂觀使股票市場過度熱絡時，可藉由融券交易的機制，產生壓制股價的力量；另一方面，在投資者過於悲觀致股票市場超跌時，可藉由融資交易的機制，增加股票市場的活力，降低不理性情形發生的機會。由於信用交易不但可以降低股票投資的財富門檻，也可增加股票市場的流動性，對股票市場的健全有正面的意義；因此，公開發行公司在上市(櫃)後，只要獲利能力達到基本的水準、股價變動程度在合理的範圍內，證券主管機關即會賦予該股票為得融資融券交易股票。

不過，由於信用交易係運用財務槓桿的方法，幫助投資者擴張信用以買入或賣出超過本身資金可投資的股票。若投資者對股票市場的看法正確，當可以小搏

大，賺取擴大的報酬；一旦投資者對股票市場的看法錯誤，則將因小失大，產生擴大的損失。除了信用交易外，證券市場亦提供另一個方便股票交易的措施；一般而言，投資者買賣上市(櫃)股票並不須預先繳足款券，可等買賣實際成交後，才備足款券進行交割，此為一般之交易方法。投資者不須預先繳足款券雖然可以降低資金積壓的成本進而增加股票的流動性，但卻也增加投資人交易完成後不進行款券交割的違約風險。為了降低違約交易的風險，主管機關也可要求投資者在交易未完成前，即備妥資金及股票，此即為變更交易方法股票，一般慣稱為全額交割股。預先繳足款券雖可預防違約提升交易效率，但徒增投資者之交易成本，亦會降低股票的流動性與價值。

為了避免增加股票市場流動性的措施遭到濫用，證券主管機關必須就公司之財務狀況是否符合最低標準、財務報告是否正常公告並申報等指標定期進行評估，以決定是否暫停該股票之信用交易或變更股票交易方法。證券相關法規對得否信用交易及須先收足款券之公司訂有明確之標準。首先，主管機關於每年度終了後第五個月及每半年度終了後第三個月之最後營業日，審核上市(櫃)公司之年度或半年度財務報告，若顯示每股淨值低於面值者，將暫停該公司股票之信用交易；其次，若公司申報之最近期之財務報告顯示每股淨值低於實收資本額二分之一者，則應先收足款券始得進行股票交易。換言之，主管機關係以半年度及年度報告之每股淨值是否低於十元，作為公司得否信用交易之標準；以季、半年度及年度報告之每股淨值是否低於五元，作為公司是否須要變更交易方法之依據。

契約的明確性及不變性造就了管理當局操縱盈餘的誘因(Schipper 1989)。由於法令規定條款十分明確且在一定期間內並不會改變，使管理當局可以針對法令條款的規定，進行盈餘管理以避免違反主管機關的規定而受到懲罰。主管機關雖然可以訂定複雜的條款以避免管理當局的操縱，只不過複雜的條款不論在製定、監督或落實上均須耗費大量的人力，且人員處理資訊的能力又會受到時間與人員素質的限制(Schipper 1989)；另一方面，人類習慣以類別的方式思考問題，並以門檻的達成與否簡化決策(Glass and Holyoak 1986; Degeorge et al. 1999)，主管機關無可避免的也會受到相同的思維束縛。在成本與效益及思維習慣的雙重考量下，主管機關選擇以簡單、制式的淨值門檻達成與否作為簡化證券管理的方式。

由於主管機關於相關法規中明定半年度及年度報告之每股淨值低於十元將暫停信用交易、最近期報告之每股淨值低於五元將變更交易方法，使得管理當局有誘因針對十元及五元之淨值門檻進行盈餘操縱，以避免所報導之每股淨值數字違反相關規定而受到懲罰，降低股票的流動性並影響公司的價值。此外，每股淨

值低於票面不僅是主管機關是否繼續給予信用交易的門檻，尚可做為投資者評估公司長期策略及經營績的心理門檻。因此，本文將測試管理當局是否以十元及五元作為淨值門檻進行盈餘管理，以及管理當局進行盈餘管理的方法。

三、管理當局對於淨值門檻的反應

本節分析每股淨值之分配，並檢定該分配在十元或五元附近是否存在不連續之狀況，以獲取管理當局對淨值門檻反應的相關資訊。

表一為上市(櫃)公司 1990 年至 2005 年每季每股淨值之敘述性統計量。各年的觀察值隨著時間的經過由 498 個持續地增加到 4,434 個，全部共有 31,422 個。每股淨值之平均數則由 1990 年的 16.363 逐漸降低至 2005 年的 14.360，跨年平均則為 14.748；至於標準差則由 1990 年的 3.884 逐年增加至 2005 年的 6.360，跨年的標準差為 5.475。隨著第七十五分位數與第二十五分位數之差逐年變大，也說明了每股淨值的分散程度正逐漸擴大。

表一、每股淨值之敘述性統計量

Year	N	Mean	Std. Dev.	25%	50%	75%
1990	498	16.363	3.884	13.750	15.865	18.330
1991	600	15.696	3.380	13.380	15.220	17.520
1992	693	15.277	3.122	13.180	14.810	17.170
1993	792	15.007	3.470	12.765	14.480	16.860
1994	866	15.304	3.644	13.010	14.640	16.970
1995	999	15.483	4.048	12.990	14.680	17.220
1996	1,178	15.141	4.060	12.770	14.225	16.750
1997	1,390	15.864	4.850	12.950	14.665	17.600
1998	1,632	15.790	5.058	12.770	14.640	17.990
1999	1,990	14.829	5.046	12.000	13.790	16.840
2000	2,376	14.722	7.536	11.755	13.680	16.890
2001	2,817	14.305	5.303	11.390	13.350	16.390
2002	3,313	14.218	5.225	11.440	13.440	16.370
2003	3,729	14.340	5.476	11.380	13.610	16.560
2004	4,115	14.574	5.706	11.580	13.880	16.820
2005	4,434	14.360	6.360	11.260	13.760	16.820
全樣本	31,422	14.748	5.475	12.000	13.980	16.880

為了檢驗管理當局是否將每股淨值門檻作為盈餘管理的標的，以避免所報導之每股淨值數字低於十元或五元，本文針對 1990 年至 2005 年之季每股淨值資料作出直方圖以瞭解分配狀況並檢定在五元或十元附近是否存在不連續之情況。若每股淨值數字未受到人為操縱，則實際分配與理論分配應大致相同，其分配應呈連續之狀況；反之，若每股淨值數字受到人為操縱，則實際分配將與理論分配不符，導致分配出現不連續的狀況。因此，每股淨值分配不連續之情況，可作為管理當局對盈餘數字進行管理，以使報導之每股淨值高於門檻之證據(Burgstahler and Dichev 1997; Degeorge et al. 1999)。

依文獻分配不連續之檢定方法有二：一種只考慮緊鄰目標區間的左右兩區間(Burgstahler and Dichev 1997)；另一種則是考慮除了目標區間以外的全部區間(Degeorge et al. 1999)。本文同時以這兩種方法，對每股淨值為十元及五元進行分配不連續之檢定。第一種檢定方法之公式如下：

$$z_i = \frac{n_i - \frac{(n_{i-1} + n_{i+1})}{2}}{SD_i}, \quad (2)$$

其中， n_i 為第 i 區間之實際觀察值， $(n_{i-1} + n_{i+1})/2$ 為第 i 區間之預期觀察值； SD_i 則為第 i 區間實際觀察值與預期觀察值差額之標準差，其計算式為 $[Np_i(1-p_i) + (1/4)N(p_{i-1} + p_{i+1})(1-p_{i-1}-p_{i+1})]^{0.5}$ ， N 為總樣本數， p_i 為第 i 區間之實際觀察值佔全部觀察值之比率。在連續之情況下，即管理當局未對每股淨值進行操縱時， z_i 為常態分配且平均數為 0，標準差為 1。

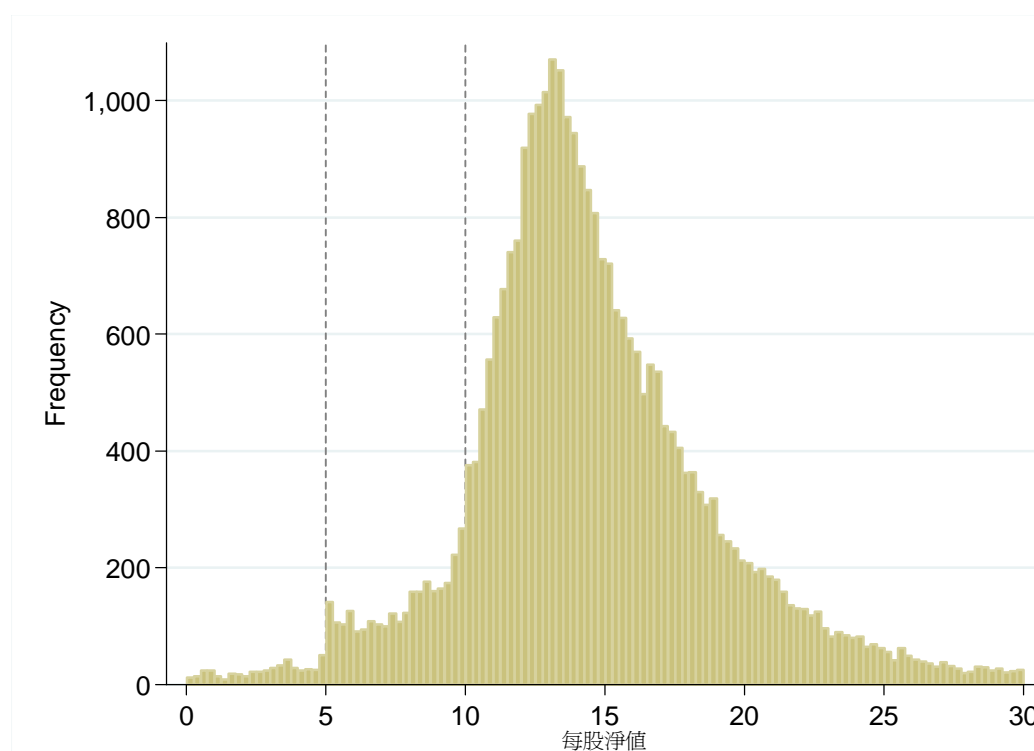
第二種檢定方法之公式如下：

$$t_i = \frac{\Delta p_i - \text{mean}(\Delta p)}{SD(\Delta p)}, \quad (3)$$

其中， Δp_i 為 p_i 與 p_{i-1} 之差， p_i 之定義前式相同； $\text{mean}(\Delta p)$ 為不含 Δp_i ，其他 Δp 之平均數； $SD(\Delta p)$ 為不含 Δp_i ，其他 Δp 之標準差。在連續之情況下，即管理當局未對每股淨值進行操縱時， t_i 與 t 分配相似。

圖一為每股淨值數字介於 0 至 30 元間，以 0.25 元為區間，所繪製之直方圖。由於區間之大小將影響分配不連續之檢定，故本文參考 Degeorge et al. (1999) 所使

用之公式，將每股淨值之區間設為 0.25 元。³由圖一可知每股淨值分配大致呈單峯對稱之型態，唯單峯以左之分配頻率略低於單峯以右之分配頻率，且在五元及十元附近特別明顯，顯示分配有不尋常之情形。由略低於十元之分配頻率明顯低於略高於十元的分配頻率，意謂著管理當局進行操縱，以使原本略低於十元之每股淨值，達到或些微超越十元之門檻；此一情形在五元附近更為明顯，顯示管理當局對五元門檻的重視更勝於十元門檻，也與事件研究中，投資者對跌破五元門檻的負面反應較大的結果相符。



圖一、每股淨值之實際分配圖。橫軸為每股淨值，分配區間為 0.25 元，虛線標示處分別為五元及十元。故第一個區間包含之每股淨值為[0, 0.25)，第二個區間則包含[0.25, 0.50)，其餘區間依此類推。縱軸則為每一區間之觀察值。

實際檢定結果亦支持管理當局以五元及十元作為門檻進行操縱。z 檢定顯示不論是十元左邊區間($z = -3.49, p = 0.00$)或右邊區間($z = 2.92, p = 0.00$)均有顯著不連續之情況；針對十元右邊與左邊區間分配頻率差額所作之 t 檢定($t = 4.12, p = 0.00$)，亦支持在十元附近有分配不連續之情況。相似的結果亦出現在五元的檢定上，z 檢定顯示不論是五元左邊區間($z = -6.75, p = 0.00$)或右邊區間($z = 5.44,$

³ Silverman (1986)及 Scott(1992)建議：區間之寬度應資料之變異程度呈負相關，與樣本量之大小呈正相關。DeGeorge et al.使用之公式為 $2(IQR)n^{-1/3}$ ，其中 IQR 為第七十五分位數減第二十五分位數，n 為樣本量。以本文每股淨值資料代入公式所得之值約為 0.3，為使區間能在五元及十元處分割以進行檢定，故取 0.25。

$p = 0.00$)均有顯著不連續之情況；針對五元右邊與左邊區間分配頻率差額所作之 t 檢定($t = 3.22$, $p = 0.02$)，亦支持在五元附近有分配不連續之情況。

四、管理當局避免淨值低於門檻之方法

先前實際分配不連續之檢定顯示管理當局以淨值門檻作為操縱之標的，避免報導之每股淨值低於門檻，影響投資者或其他財務報表使用者對公司的觀感。在確定了淨值門檻存在後，本節則探討管理當局進行盈餘管理以符合門檻之可能方法。

運用權責修改銷貨條件加速銷貨的進行或延緩研究發展、修繕及訓練等裁決性支出，為管理當局增加所報導盈餘數字常見之方法；而這些方法將使公司之現金流量及營運資金出現不尋常之狀況。故本文參考Burgstahler and Dichev (1997)之作法，將盈餘細分成營業活動之現金流量、現金以外營運資金之變動數及其他應計數等三個項目，並檢視這三個項目條件分配之狀況，以尋找管理當局進行盈餘管理之證據。其中營業活動之現金流量為現金流量表之數字，並以期初總資產平減；現金以外營運資金之變動數為不含現金之流動資產減流動負債，並以期初總資產平減；其他應計數為以上項目不包括之部分，並以期初總資產平減。⁴此外，由於低於五元之樣本較少，故只針對十元門檻進行測試。

各盈餘項目以每股淨值為條件之分配建立方式如下：首先以每股淨值作為分組之依據，將大於十元之樣本由小到大，小於十元之樣本則由大到小依序排列，以每組 400 個觀察值建立每股淨值大致相似之群組；因此，十元右邊第一組為大於十元之中，400 個每股淨值最小的觀察值；十元左邊第一組則為小於十元之中，400 個每股淨值最大的觀察值。其次針對每一群組，找出每一盈餘組成項目之第二十五、五十及七十五分位數，並以之與群組之中位數繪製折線圖。

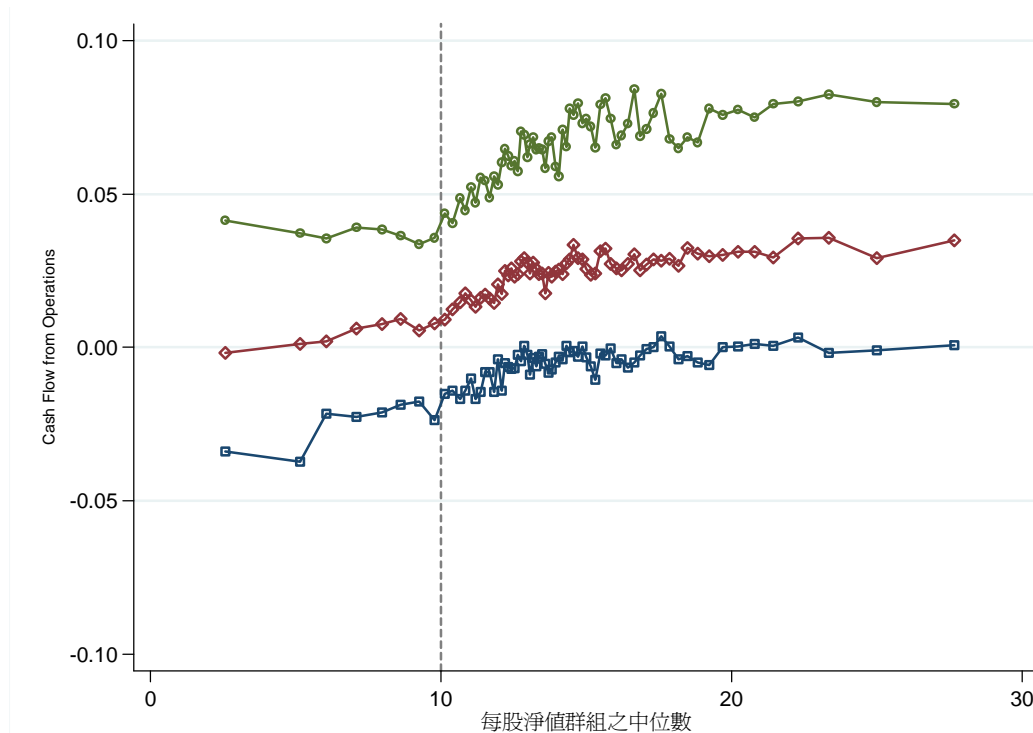
如果管理當局針對特定盈餘項目進行操縱，使原本低於十元之淨值數字以略高於十元報導，則未操縱樣本該項目平減後之金額應較小，操縱樣本該項目平減後之金額應較大。換言之，該項目在十元左邊群組平減後金額，將低於該項目在十元右邊群組平減後金額；意即，十元左邊群組與右邊群組之連線應為正向之斜率。此外，若十元左邊第一群組與第二群組之連線呈負向之斜率，則表示第一群

⁴ 不含現金之流動資產=應收帳款及票據+其他應收款+短期投資+存貨+預付費用及預付款+其他流動資產；流動負債=應付帳款及票據+應付費用+預收款項+其他應付款+應付所得稅；其他應計數=本期淨利-營業活動現金流量-不含現金之營運資金變動數。

組之樣本由於原本該盈餘項目相對較小、操縱不易，因此邊際成本較高，故選擇不以該項目進行操縱。

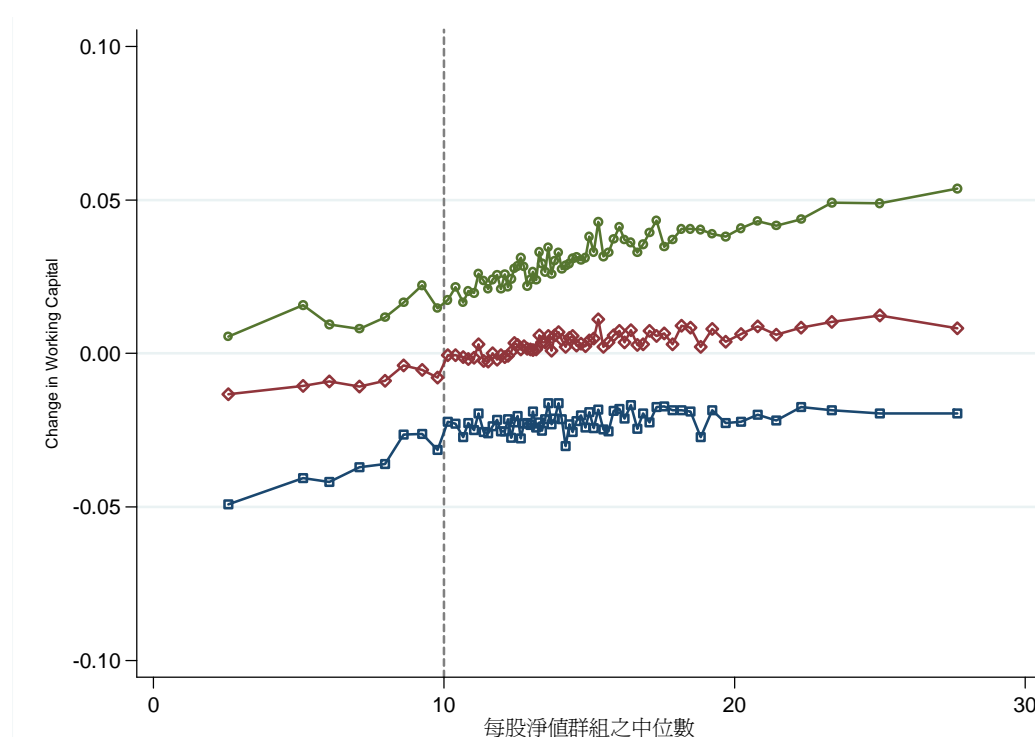
盈餘組成項目條件分配之概念雖然簡單，但也有其先天上的限制(Burgstahler and Dichev 1997)。首先，如果樣本公司不是有系統地以同樣的項目進行盈餘管理，則很難由特定項目之條件分配，觀察在門檻附近異常的起伏。因為若某些公司針對現金流量進行操縱，但其他公司則針對營運資金進行操縱，則無法由盈餘項目之條件分配觀察出現現金流量或營運資金異常之狀況。其次，由於各盈餘項目間的關係甚為密切，現金流量的增加常伴隨著營運資金的減少；各項目的互動可能使某些項目無法出現如預期之異常狀況。

圖二為營業活動現金流量與每股淨值群組中位數之折線圖。由圖二可以發現十元左邊群組與右邊群組的第二十五、五十及七十五分位數之連線，均呈現正向的斜率，即十元右邊群組之營業活動現金流量大於左邊群組之營業活動現金流量。這樣的形態意謂著管理當局以增加現金流量之方法，往上操縱盈餘，以使原本低於十元之每股淨值，能以略高於十元報導，導致每股淨值略高於十元群組之營業活動現金流量較略低於十元群組為大。此外，在十元左邊幾個群組之連線，約略呈負斜率的趨勢，顯示這些群組之樣本由於原本營業活動現金流量相對較低，導致以營業活動現金流量進行操縱的邊際成本較高，故放棄以每股淨值為目標進行操縱。



圖二、營業活動現金流量與每股淨值之折線圖。橫軸為群組之中位數，縱軸為營業活動現金流量平減期初總資產。每一群組均以每股淨值十元為標準，400 個觀察值為一單位所形成。十元左邊第一個群組為淨值小於十元中，最大的 400 個觀察值；十元右邊第一個群組為淨值大於十元中，最小的 400 個觀察值，其餘依此類推。將每一群組平減後營業活動現金流量之第二十五、五十及七十五分位數為縱軸值、群組之中位數為橫軸值，各分位數互相連接即為折線。

圖三則為營運資金變動數與每股淨值群組中位數之折線圖。由圖四可以發現十元左邊群組與右邊群組的第二十五、五十及七十五分位數之連線，均呈現正向的斜率，即十元右邊群組之營運資金變動數大於左邊群組之營業資金變動數。這樣的形態意謂著管理當局以增加營運資金之方法，往上操縱盈餘，以使原本低於十元之每股淨值，能以略高於十元報導，導致每股淨值略高於十元群組之營運資金變動數大於較略低於十元群組為大。此外，在十元左邊幾個群組之連線，約略呈負斜率的趨勢，且較營業活動現金流量(圖二)更為明顯，顯示這些群組之樣本由於原本營運資金變動數相對較低，導致以營運資金變動數進行操縱的邊際成本較高，故放棄以每股淨值為目標進行操縱。

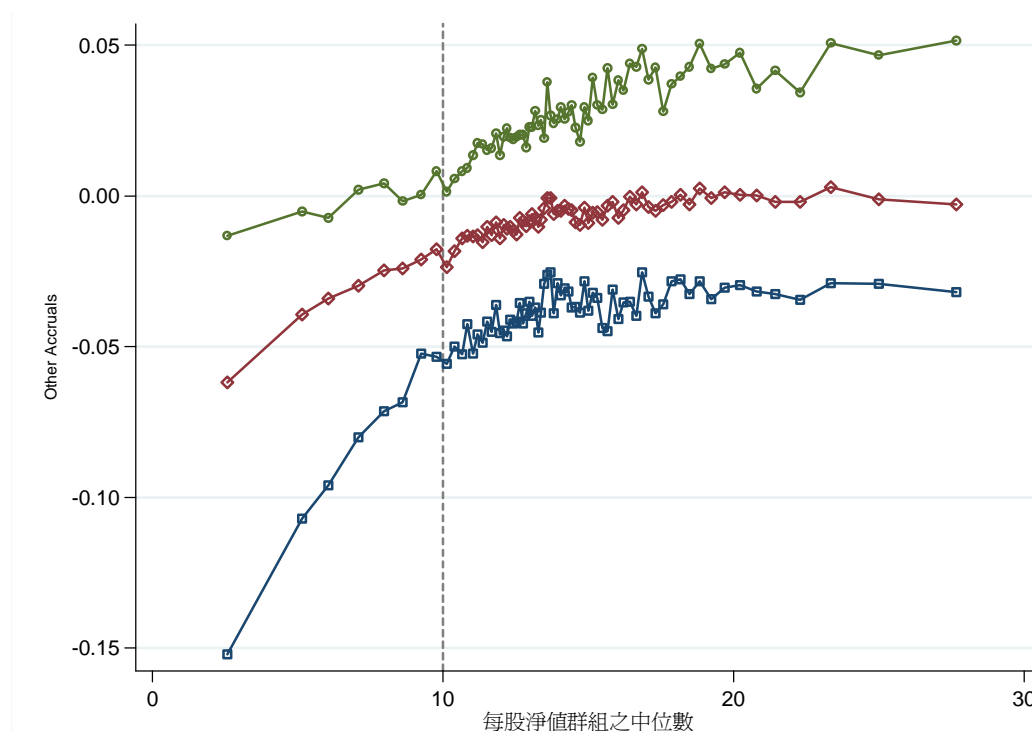


圖三、營運資金變動數與每股淨值之折線圖。橫軸為群組之中位數，縱軸為營運資金變動數平減期初總資產。每一群組均以每股淨值十元為標準，400 個觀察值為一單位所形成。十元左邊第一個群組為淨值小於十元中，最大的 400 個觀察值；十元右邊第一個群

組為淨值大於十元中，最小的 400 個觀察值，其餘依此類推。將每一群組平減後營運資金之第二十五、五十及七十五分位數為縱軸值、群組之中位數為橫軸值，各分位數互相連接即為折線。

圖四則為其他應計數與每股淨值群組中位數之折線圖。由圖四可以發現十元左邊群組與右邊群組的第二十五、五十及七十五分位數之連線，均呈現負向的斜率，即十元右邊群組之其他應計數小於左邊群組之其他應計數。這樣的形態意不只謂著管理當局並未以增加其他應計數之方法，往上操縱盈餘；相反地，還透露出管理當局可能以減少其他應計數之方法，往下操縱盈餘，導致每股淨值略高於十元群組之其他應計數大較略低於十元群組為小。不過，如前所述，各盈餘組成項目間存在密切的相關性；因此，負向斜率較可能係因管理當局並未針對其他應計數進行盈餘管理，但由於盈餘的三個組成項目中，管理當局已藉由營運活動現金流量及營運資金變動變數往上操縱盈餘，導致其他應計數相對較小而呈現負斜率。此外，在十元左邊幾個群組之連線，相較於營運活動現金流量(圖二)及營運資金變動變數(圖三)的圖型並無明顯異常波動的狀況，支持管理當局未以其他應計數進行盈餘管理。

由盈餘組成項目之條件分配，發現管理當局可能藉由增加營運活動現金流量及營運資金相關的方法(如：改變銷貨條件、增加存貨、延緩修繕、廣告及研究發展等裁決性支出)進行盈餘管理，避免所報導的淨值數字低於十元。



圖四、其他應計數與每股淨值之折線圖。橫軸為群組之中位數，縱軸為其他應計數平減期初總資產。每一群組均以每股淨值十元為標準，400 個觀察值為一單位所形成。十元左邊第一個群組為淨值小於十元中，最大的 400 個觀察值；十元右邊第一個群組為淨值大於十元中，最小的 400 個觀察值，其餘依此類推。將每一群組平減後其他應計數之第二十五、五十及七十五分位數為縱軸值、群組之中位數為橫軸值，各分位數互相連接即為折線。

六、結論

由於國內每股票面價值均為十元，當每股淨值低於十元時，顯示公司長期的策略或經營方式出現問題，導致虧損持續發生，公司經營不但沒有獲利並損及投資人原本投入之股本。因此，主管機關在成本與效益及思維習慣的雙重考量下，選擇以簡單、制式的淨值門檻達成與否作為證券管理的指標。不過，一個明確且不變的門檻指標也提供了管理當局操縱盈餘以規避相關懲罰的誘因。

由於證券主管機關對於淨值低於十元之上市(櫃)公司，暫停其股票之信用交易及低於五元之上市(櫃)公司，改變交易方法之規定，使淨值低於門檻公司之股票交易產生額外的成本。研究結果發現每股淨值之分配在十元及五元門檻附近出現不連續之情況，意謂著管理當局以淨值門檻作為標的進行盈餘管理；且盈餘組成項目之條件分配顯示盈餘管理的方法包括增加營運活動現金流量及營運資金。

本文的結果顯示主管機關法令規範的明確性及不變性造就了管理當局盈餘管理的動機；不僅如此，管理當局會運用其在會計政策上的裁決與判斷空間，透過影響現金流量或營運資金的方法進行盈餘操縱。這些結果除了可提供後續研究的參考，並增加市場參與者對盈餘管理的瞭解，可幫助主管機關瞭解以淨值門檻指標作為決策標準，對管理當局盈餘操縱行為及投資者投資行為的影響。

參考文獻

- Adiel, R. 1996. Reinsurance and the management of regulatory ratios and taxes in the property—Casualty insurance industry. *Journal of Accounting and Economics* 22(1-3): 207-240.
- Beatty, A., S. Chamberlian, and J. Magliolo. 1995. Managing financial reports of commercial banks: The influence of taxes, regulatory capital and earnings. *Journal of Accounting Research* 33(2): 231-261.

- Burgstahler, D., and I. Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24(December): 99–126.
- Chen, K., and H. Yuan. 2004. Earnings management and capital resource allocation: Evidence from China's accounting-based regulation of rights issues. *The Accounting Review* 79(3): 645–665.
- Collins, J., D. Shackelford, and J. Wahlen. 1995. Bank differences in the coordination of regulatory capital, earnings and taxes. *Journal of Accounting Research* 33(2): 263–291.
- Degeorge, F., J. Patel, and R. Zeckhauser. 1999. Earnings management to exceed thresholds. *Journal of Business* 72(1):1–33.
- Glass, A. L., and K. J. Holyoak. 1986. *Cognition*. New York: Random House.
- Healy, P., and J. Wahlen. 1999. Commentary: A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13(4): 365–383.
- Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193–228.
- Key, K. 1997. Political cost incentives for earnings management in the cable television industry. *Journal of Accounting and Economics* 23 (3): 309–337.
- Moyer, S. 1990. Capital adequacy ratio regulations and accounting choices in commercial banks. *Journal of Accounting and Economics* 12: 123–154.
- Schipper, K. 1989. Commentary: Earnings management. *Accounting Horizons* (December): 91–102.
- Scott, D. W. 1992. *Multivariate Density Estimation: Theory, Practice, and Visualization*. New York: Wiley.
- Silverman, B. W. 1986. *Density Estimation for Statistics and Data Analysis*. London: Chapman & Hall.

行政院國家科學委員會補助國內專家學者出席國際學術會議報告

95 年 1 月 11 日

報告人姓名	許書偉	服務機構 及職稱	東海大學會計學系
時間	96/1/6 至 96/1/7	本會核定 補助文號	研究計畫支應
會議地點	香港		
會議 名稱	(中文)當代會計與經濟期刊研討會 (英文)Journal of Contemporary Accounting and Economics Symposium		
發表 論文 題目	(中文)在美國註冊外國公司盈餘品質改善之比較：普通法與成文法國家 (英文)A comparison of improvement of earnings quality by U.S. foreign registrants: common law countries vs. code law countries		
<p>報告內容應包括下列各項：</p> <p>一、參加會議經過</p> <p>本次會議為香港理工大學工商管理學院及會計及金融學院所之「當代會計與經濟期刊期刊」所籌辦；除了有針對亞太地區之論文發表會外，尚有國際知名學者針對公司治理專題進行演講。由於國科會的補助，使本人可以初次以英文在國外發表論文，並得以見習國際研討會的舉辦及香港的會計教育環境。</p> <p>二、與會心得</p> <p>由於舉辦單位本身在會計學術研究上已有卓越的表現；因此，此次研討會吸引了美國、中國大陸、澳洲及新加坡等地的學者競相投稿，使得會議論文的品質不容小覷，也使本人得以接觸到其他地方的優秀學者。此外，本人也深深地體會到如何以英文流利的報告是目前十分欠缺的能力，流利的英文報告才能完整地表達出自己所做研究的內容與精髓。不但如此，舉辦單位對所發表論文給予的意見，也使本人得具以修改論文，以使論文能更完備。</p> <p>三、考察參觀活動(無是項活動者省略)</p> <p>四、建議</p> <p>本人認為應逐步提升自己的研究水準並積極參與國際研討會，才可以提升東海大學或台灣在國際上的能見度。以香港理工大學為例，由於 Gul 教授及 Tsui 教授，已經在會計頂尖期刊證明自己的能力，因此，得以為香港理工大學籌辦國際研討會並吸引國際學者競相參與，增加香港理工大學及香港的能見度。</p> <p>此外，香港由於本身的特性，使得迅速改變以符合潮流，成為其最佳的競爭優勢。香港的學生大多英文說寫能力均佳；相較之下，本人或本人服務學校學生的英文能力仍有待加強。畢竟英文是求取尖端知識與世界溝通的一把鑰匙。</p> <p>五、攜回資料名稱及內容</p> <ol style="list-style-type: none"> 1. 香港理工大學工商管理學院及會計及金融學院簡介及課程介紹。 2. 研討會論文集。 <p>六、其他</p>			

行政院國家科學委員會補助國內專家學者出席國際學術會議報告

95 年 9 月 12 日

報告人姓名	許書偉	服務機構 及職稱	東海大學會計學系
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發表 論文 題目	(中文)在美國註冊外國公司盈餘品質改善之比較：普通法與成文法國家 (英文)A comparison of improvement of earnings quality by U.S. foreign registrants: common law countries vs. code law countries		
<p>報告內容應包括下列各項：</p> <p>一、參加會議經過</p> <p>本次會議為美國會計學會所舉辦之年度研討會，該研討會有論壇、新進學者及一般論文發表等三個等級，與會者包括國際知名之會計研究者及有志於會計研究的人士。本人很高興取得博士學位後，即能參加一般論文的發表。由於國科會的補助，使本人得以參加會計研究的年度盛會。</p> <p>二、與會心得</p> <p>有興能參加全球會計研究最大的研討會，其開會場地包括華盛頓特區兩家主要之飯店，並有數千人與會，讓本人見識到世界的浩瀚與競爭之激烈。此外，本人也深深地體會到必須加強英文能力，並訓練與不同文化學者交流之能力，否則只是與會發表論文並無法廣泛地與其他學者交流，並將自己之研究能力往上提升。</p> <p>三、考察參觀活動(無是項活動者省略)</p> <p>略</p> <p>四、建議</p> <p>這次參加會議的國內學者相對較少，雖然早期到美國的台灣學者與會仍然不少，但在會場上中國學者的比重正逐漸增加，且其研究能力亦不可小看。因此，國內的會計研究必須在質與量上加強，要有好的文章並且以英文撰寫，才能增加國內會計研究在國際上的能見度。此外，除了發表論文外，國內學者亦可擔任論文發表會的主持人、評論人，以增加自己在國際上的能見度。</p> <p>五、攜回資料名稱及內容</p> <ol style="list-style-type: none"> 1. 研討會論文摘要集。 2. 美國會計學會相關資料。 <p>六、其他</p>			

A Comparison of Improvement in Earnings Attributes by U.S. Foreign Registrants: Common Law Countries vs. Code Law Countries

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Abstract

This research investigates how the earnings attributes of cross-listed firms are affected by a stricter U.S. legal system. The incentives of managers of foreign registrants are expected to be reshaped by a stricter U.S. legal regulations and environment, as characterized by stronger investor protection. It is therefore hypothesized that a strong legal framework exhibited in the U.S. will mitigate the need for earnings manipulation and lead to the improvement in earnings attributes on the part of foreign registrants. Using 802 cross-listed firms across 40 countries, this research tests whether the earnings attributes, proxied by earnings management and timely loss recognition, are improved following cross-listing. Generally, the empirical results have shown that non-U.S. firms improve their earnings attributes following cross-listing on U.S. securities markets, and the magnitude of improvement is negatively related to the degree of investor protection in their respective home countries. In general, cross-listed firms from code-law countries exhibit a larger magnitude of improvement in earnings attributes than those from common-law countries.

Keywords: Investor Protection, Cross-listing, Bonding Hypothesis, Earnings Attributes

1. Introduction

This paper provides empirical evidence on how the earnings attributes of non-U.S. firms across 40 countries are influenced by a stricter U.S. legal system after cross-listing. The results have shown that subject to the stricter legal system, the earnings attributes of cross-listed firms are improved and the magnitude of improvement is negatively related to the level of investor protection in non-U.S. firms' home countries. It is therefore suggested that legal system is a crucial factor in influencing corporate governance and hence the quality of financial reporting of a particular country.

The American Depository Receipts (ADRs) provide foreign registrants rights as well as obligations to reach the capital market in the U.S. The issuance of ADRs by non-U.S. firms has become a popular approach to raising funds and in broadening their investor bases in the U.S. over the past few decades. However, to be listed in the U.S., foreign firms not only enter into the most sophisticated capital market, but also have to face the most rigorous enforcement of securities laws and regulations in the world. The provisions of U.S. securities laws have provided investors with the utmost protection against the expropriation of wealth by the insiders (e.g., managers or controlling shareholders) (Coffee 1999; 2002). Therefore, foreign firms, having once decided to go public in the U.S., are tantamount to voluntarily subjecting themselves to the stricter U.S. legal system. In other words, by diminishing the possibility of being expropriated by insiders, foreign firms may become more able to attract investors who are otherwise reluctant to invest in them.

A strong legal system, consisting of legal regulations and their enforcements, provides outside investors with intact rights against expropriation from the insiders (e.g., structuring transactions to transfer assets to themselves, consuming more perquisites, and arranging their

unqualified relatives in the positions of the firms). The stronger the investor protection empowered by the legal system becomes, the less the likelihood that the insiders can expropriate outside investors without resistances from them (La Porta et al. 2000). The legal system of each country determines the incentives of insiders to expropriate outside investors and hence the magnitude managers manipulate reported earnings in that country (La Porta et al. 2000; Ball 2001; Leuz et al. 2003; Bushman and Piotroski 2006). The legal system of a country influences not only the efficiency of the expropriation but also the compliance of accounting principles. An effective system of detection and enforcement ensures the insiders prepare financial reports in accordance with accounting standards. An independent legal framework, which detects and penalizes fraudulent behaviors regarding financial reporting, is the vital integrant for the detection and enforcement of the system (Ball et al. 2000; Ball 2001; Ball et al. 2003; Bushman and Piotroski 2006)

Cross-listing in the U.S. has bonded non-U.S. firms with the mechanism of a more investor-oriented legal system, thereby partially improving weaker investor protection derived from their home countries (Coffee 1999, 2002; La Porta et al. 2000; Reese and Weisbach 2002; Lang et al. 2003; Dodge 2004; Dodge et al. 2004).¹ Since the legal systems differ systematically around the world (La Porta et al. 1997, 1998; Leuz et al. 2003), the bonding power of U.S. cross-listing will not apply to all non-U.S. firms equally. If the investor protection of a country is weaker, then the brunt of U.S. legal system derived from cross-listing will be fiercer (Dodge et al. 2004). In other words, the bonding power of U.S. cross-listing is hinged on the level of investor protection in non-U.S. firms' home countries.

The bonding power associated with U.S. cross-listing reshapes the incentives of the

¹ Not all evidence support the bonding power of U.S. cross-listing, especially if non-U.S. firms do not have assets in the U.S., the stricter U.S. legal system cannot be enforced effectively (Siegel 2003). However, Coffee (2002) argues that the necessary condition for bonding power to be sustained is the perceived risk of liability of cross-listing, rather than the stricter laws and regulators will be enforced rigorously.

insiders of non-U.S firms and then influences the financial reporting behaviors of these firms. When non-U.S. firms cross-listed in the U.S., they are subject to the most rigorous developed legal system in the world, reshaping the incentives of the insiders of non-U.S. firms to prepare financial reporting more fiducially than in pre-cross-listing periods (Lang et al. 2003). If, as the evidence indicates, the bonding power of U.S. cross-listing is decreasing in the level of investor protection of non-U.S. firms' home countries, then the magnitude of the insiders' incentives being reshaped is also decreasing in it. The reshaped incentives, whose magnitude is according to the level of investor protection in non-U.S. firm's home country, then influence the financial reporting behavior (e.g., reported earnings) of non-U.S. firms after cross-listing. This paper, therefore, hypothesizes that the magnitude of improvement in earnings attributes of foreign registrants is negatively related to the level of investor protection in their home countries.

This paper contributes to the literature in the following ways. The results support the viewpoint of prior research, advocating that legal system is a crucial element to corporate governance and exogenously determines the financial reporting quality of a country (La Porta et al. 2000; Ball 2001; Leuz et al. 2003). This has suggested that the bonding power of U.S. cross-listing is an effective means for non-U.S. firms to improve their level of investor protection. (La Porta et al. 2000; Reese and Weisbach 2002; Lang et al. 2003; Doidge 2004; Doidge et al. 2004). The results also imply that regulatory institutions to monitor and enforce the compliance of accounting standards are distinct across countries.

The caveats of the conclusion reached in this research can be outlined as follows. Although both legal tradition approach (La Porta et al. 1997, 1998, 2000) and country cluster approach (Leuz et al. 2003) are used to measure the level of investor protection in each country around the world, other institutional factors influencing financial reporting quality

may be correlated with the level of investor protection. They are not easily identified or simply omitted in this research. Another caveat may come from the exogenously determined financial reporting quality. Prior studies show that the legal system exogenously determines the financial reporting quality of a country (Ball et al. 2000; Leuz et al. 2003); however, the exogenous relation between the legal system and financial reporting quality cannot be unambiguous without further investigations.

The remainder of this paper is organized as follows. Section 2 presents various ADR programs used to cross-listed in the U.S. Section 3 discusses the constructs of earnings attributes and how the improvement of earnings attributes is measured. Section 4 describes the sample selection, followed by empirical results in Section 5. Conclusion and implications for future research are included in Section 6.

2. Cross-listing in the U.S. with ADR programs

Four types of ADRs, one is private placement and the other three are public placements, accompanied by unique characteristics and legal implications can be chosen by issuers to cross-list in the U.S. In public placements, each type of ADR programs is associated with a level standing for its unique structure and characteristic. The characteristics of each ADR programs are summarized as follows.

The ADRs in private placement established according to Rule 144A, allows non-U.S. firms to raise capital privately and permits secondary trading among Qualified Institutional Buyers (QIBs) on the PORTAL² system in the U.S. According to Rule 144A, only upon the request of 144A ADR holders and prospective buyers, a vary brief information about issuer's business and most recent financial statements which meet the timing requirements of home

² PORTAL is an acronym for Private Offering, Resells and Trading through Automated Linkages developing by the NASD to support the secondary trading of 144A ADRs.

country should be provided by issuers. In other words, 144A ADRs provide a simplest means for non-U.S. firms to access capital in the U.S. without complying with the stricter U.S. securities laws.

Among the three levels of public placement, Level 1 ADR program is the least costly and the easiest way for non-U.S. firms to trade their shares in the U.S. Level 1 ADRs are traded on the U.S. over-the-counter (OTC) market via Pink Sheets³ pricing system. Under Rule 12g3-2(b), issuers of Level 1 ADR program can supply financial information based on the requirements in their home countries to the SEC instead of using Form 20-F to comply the information supplying requirements under the Exchange Act of 1934. Therefore, by establishing Level 1 ADR programs, non-U.S. firms can trade their shares in the U.S. without changing home reporting practices. With the benefits of low cost, least efforts, and without changing reporting practices, Level 1 ADRs are generally viewed as the first step for non-U.S. firms to enter into U.S. public equity market.

Under Level 2 and 3 ADR programs, non-U.S. firms must register with the SEC via Form 20-F to cross-list their shares on U.S. securities markets. Form 20-F is a disclosure filing under the 1934 Exchange Act, which requires non-U.S. firms to supply financial information either in U.S. GAAP (Generally Accepted Accounting Principle) or reconcile it from home GAAP into U.S GAAP on a continuous basis. Level 2 programs provide non-U.S. firms a means of cross-listing on U.S. securities markets; on the other hand, Level 3 programs provide non-U.S. firms the right to raise capital in the U.S. in addition to cross-list on U.S. securities markets.

In summary, cross-listing on U.S. securities markets with Level 2/3 ADRs, non-U.S. firms voluntarily commit themselves to the stringent U.S. legal environment, which consists

³ “Pink Sheets” is a trading system in the OTC market to trade Level 1 ADRs which exempt from the registration requirements of 1934 Securities Exchanges Act according to Rule 12g3-2(b).

of the stricter securities laws, actively regulatory bodies with strong enforcement powers, and litigious stakeholders. On the other hand, under Level 1 or 144A ADR programs non-U.S. firms can access the U.S. capital market without bonding by most of the stringent U.S. legal environment (Reese and Weisbach 2002; Lang et al. 2003; Doidge 2004; Dodge et al. 2004). Since only Level 2/3 programs are effectively bonded by the U.S. legal system, non-U.S. firms with these programs are used to test the bonding power of U.S. cross-listing on the behavior of financial reporting, while non-U.S. firms with Level 1 and 144A programs are included in the empirical analysis to control the effects of cross-listing in the U.S.

3. Earnings attributes and the improvement of earnings attributes

Financial reporting quality is a critical issue both in academia and practices and is generally operationalized as earnings attributes in academia research (Schipper and Vincent 2003). Following prior research (Lang et al. 2003; Leuz et al. 2003; Francis et al. 2004), this paper constructs earnings attributes as earnings management and timely loss recognition and measures the improvement of earnings attributes as the difference between pre- and post-cross-listing periods.

3.1. Earnings management

Managers have different incentives and discretions to manage earnings. They may manage earnings to mislead users of financial reporting about underlying firm performance or to influence outcomes of contracts whose terms are written based on reported numbers. In addition, the pervasiveness of earnings management affects the credibility of financial reporting (Healy and Wahlen 1999). Following prior research, we use earnings smoothing and earnings discretion (Lang et al. 2003; Leuz et al. 2003) to measure earnings management. Earnings smoothing is measured by the variability of earnings and the relation between

accruals and cash flow from operations. If managers try to manipulate earnings to conceal unexpected economic outcomes, the variability of earnings declines and the relation between accruals and cash flow changes. The variability of earnings is calculated as follows:

$$\frac{\text{standard deviation of operating earnings}}{\text{standard deviation of cash flow form operations}}, \quad (1)$$

cash flow from operations is computed by subtracting accruals from operating earnings because cash flow from operations is not directly available until recent years in most countries.⁴ Along the line of prior research (e.g. Healy, 1985; Jones, 1991; Bartov et al. 2000), accruals are computed as follows:

$$Accruals_{it} = (\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STD_{it}) - Dep_{it}, \quad (2)$$

where ΔCA is the change in current assets, $\Delta Cash$ is the change in cash/cash equivalents, ΔCL is the change in current liabilities, ΔSTD is the change in short term debt including in current liabilities, and Dep is depreciation and amortization expense for firm i in year t . The relation between changes in accruals and changes in cash flow from operations is measured as following Spearman correlation (Leuz et al. 2003):

$$\text{correlation}(\Delta \text{accruals}, \Delta \text{cash flow from operations}). \quad (3)$$

Furthermore, managers can use discretions to meet specific earnings targets or to keep earnings increasing to gain personal benefits (e.g. Barth et al. 1999; Skinner and Sloan 2001; Matusumoto 2002). Generally, the discretions managers have solely come from accruals, which function as a buffer between net income and cash flow. If managers use accruals to

⁴ Although statements of cash flow have been prepared in some countries since late 1980s, it is inappropriate for this paper to use cash flow data obtained from statement of cash flow in these countries. The reason is that this paper compares earnings quality based on the group of countries with similar level of investor protection around the world. If the cash flow data is computed with different methods depends on the availability of statement of cash flow in a country, then the cash flow data computed with different methods in different countries is pooled together across countries. It is obvious that the result will be distorted by observations whose cash flow data is computed from different method because of the different attributes in the cash flow data. Therefore, the research focusing on international issues generally computes cash flow data from balance sheet and income statement rather than from statement of cash flow, even statement of cash flow is available in some countries (e.g., Bhattacharya et al. 2003; Lang et al. 2003; Leuz et al. 2003).

manipulate earnings, compared with undistorted cash flow, the magnitude of accruals becomes larger (Lang et al. 2003; Leuz et al. 2003). The magnitude of accruals is computed as follows:

$$meidan\left(\frac{\text{absolute value of firm's accruals}}{\text{absolute value of firm's cash flow from operations}}\right). \quad (4)$$

Furthermore, if managers use discretions to keep earnings increasing, the expected number of small positive changes in earnings increases, compared with the earnings without manipulations (Burgstahler and Dichev 1997; Lang et al. 2003; Leuz et al. 2003). The small earnings increasing is defined as the change in net income before extra items scaled by lagged total assets in the range between 0 and 0.04. The discretion is calculated as follows:

$$\frac{\text{number of small earnings increasing}}{\text{number of total observations}}. \quad (5)$$

For the country-level earnings management measures, each of the four measures is computed based on firms' cross-listed status, defined as 4 years before or following cross-listing, and ADR program types in each country. Then, following Leuz et al. (2003), each measure is ranked and averaged across the same cross-listed status, ADR programs, and country to construct an overall measure of earnings management for each country either in pre-listing or post-listing, and the larger ranking score means the greater magnitude of earnings management.

To verify whether the firms with weaker investor protection have larger improvement in earnings quality than firms with stronger investor protection around cross-listing, the magnitude of differences between pre-listing and post-listing periods based on the level of investor protection, proxied by legal tradition of each country as either common-law or code-law, is computed. Since code-law countries have poor investor protection derived from their legal systems (La Porta et al. 1997, 1998; Leuz et al. 2003), then code-law countries are

expected to have larger declined magnitude in earnings management than common-law following cross-listing.

In addition to the dichotomy between code-law and common-law countries, three distinct country clusters proposed by Leuz et al. 2003 are also used as a proxy for the level of investor protection among countries in the following empirical analysis. The first cluster is countries whose economics are outsiders friendly; whereas the second and third clusters are countries whose economics are insiders friendly. The difference between the second and third clusters is on whether regulations and laws are strongly enforced in that country. As a result, the level of investor protection is better in the first cluster (IP1), worse in the third cluster (IP3), and the second cluster (IP2) in between.

3.2. Timely loss recognition

Timely loss recognition studies the asymmetric incorporation of bad news into earnings relative to good news and is viewed as a desired attribute of earnings under either contracting or corporate governance perspectives (Ball 2001; Watts 2003a, b). The asymmetric incorporation of bad news is widely applied to single country or multiple countries research (Basu 1997; Ball, Kothari, and Robin 2000; Ball, Robin, and Wu 2003; Lang et al. 2003; Francis et al. 2004; Bushman and Piotroski 2006). The following regression is used to measure how the timely loss recognition is different between pre-listing and post-listing periods among different levels of investor protection:

$$\begin{aligned}
NI_{it} = & \alpha_1 + \sum_{j+1} \alpha_{2j} IP_j + \alpha_3 NR + \sum_{j+1} \alpha_{4j} IP_j \cdot NR + \alpha_5 CL \cdot NR \\
& + \sum_{j+1} \alpha_{6j} CL \cdot IP_j \cdot NR + \beta_1 R_{it} + \sum_{j+1} \beta_{1j} \cdot IP_j \cdot R_{it} + \beta_2 CL \cdot R_{it} \\
& + \sum_{j+1} \beta_{3j} CL \cdot IP_j \cdot R_{it} + \beta_4 NR \cdot R_{it} + \sum_{j+1} \beta_{5j} IP_j \cdot NR \cdot R_{it} \\
& + \beta_6 CL \cdot NR \cdot R_{it} + \sum_{j+1} \beta_{7j} CL \cdot IP_j \cdot NR \cdot R_{it} + \varepsilon_{it}
\end{aligned} \tag{8}$$

where NI is operating income per share deflated by price at the beginning of the period, and R is the return cumulated over the sixteen months ending four months after fiscal year-end for firm i in fiscal year t . NR is a dummy variable to indicate negative cumulative return which is used as a proxy for bad news, and take value of 1 if the cumulative return is negative and 0 otherwise. IP_j is the level of investor protection of a country, it can be CM/CD for the legal tradition approach or $IP_1/IP_2/IP_3$ for the descriptive country cluster analysis. CM stands for the countries with common-law tradition and CD stands for the countries with code-law tradition. IP_1 is the outsider economics, IP_2 is the insider economics with strong legal enforcement, and IP_3 is the insider economics with weak legal enforcement for the country cluster analysis. CL is a dummy variable to indicate periods before or after cross-listing, 0 indicates years in the periods of 3-year before cross-listing and 1 indicates years in the periods of 3-year after cross-listing. The coefficients of β_{7j} is expected to be positive and the magnitude is expected to decrease with respect to the level of investor protection.

4. Sample selection and description

A complete list of firms with ADR programs is obtained from the website of The Bank of New York⁵ as November 2004, which contains 2,031 ADR programs. Firms in the list that are not covered in Worldscope fundamental of Datastream database or from countries without legal tradition according to La Porta et al. (1998) are deleted, and firms that are not initially established their ADR programs (e.g., the second times of Level 1 program) are also excluded. In addition, upgraded ADR programs⁶ (e.g., form Level 1 to Level 2), ADR programs

⁵ The ADR list is located at http://www.adrbny.com/dr_directory.jsp.

⁶ These samples are excluded because their duplicate cross-listed years may contaminate the results of this paper. The contamination occurs when the duplicate cross-listed years are too close to deploy in two separated analyses. More specifically, when the duplicate cross-listed years are too close, the data used in the analysis of one cross-listed year may also be used in the analysis of the second cross-listed year, which will reduce the internal

established according to Regulation S⁷ (Miller 1999; Reese and Weisbach 2002), or established not in the interval between 1985 and 2002 are also deleted. After imposing these restrictions, the sample consists of 802 firms across 40 countries. Table 1 summarizes the established years of firms' ADR programs.

Table 1 Summary of sample composition by established year

Established year	Number of firms	Percent of total firms	Established year	Number of firms	Percent of total firms
1985	2	0.25	1994	94	11.72
1986	3	0.37	1995	47	5.86
1987	12	1.50	1996	60	7.48
1988	14	1.75	1997	70	8.73
1989	13	1.62	1998	65	8.10
1990	10	1.25	1999	59	7.36
1991	20	2.49	2000	96	11.97
1992	26	3.24	2001	85	10.60
1993	45	5.61	2002	81	10.10
Total				802	100.00

Table 2 presents home countries of these firms by legal of tradition. Of the 802 firms, 395 firms (49.25%) are from code-law countries and 407 firms (50.75%) are from common-law countries. Furthermore, as seen in Panel B among the cross-listed firms, 18.08% established 144A, 47.13% established Level1, and 34.79% established Level 2/3 ADR programs, which is approximately the same as Miller's (1999) sample composition. Compared with 42.78% of firms from code-law countries, only 27.03% of firms from common-law countries established Level 2/3 programs ($z = 4.68$ and $p = 0.00$ for the difference) are consistent with the notion that code-law firms are more attractive to cross-list on U.S. securities markets to improve their weak investor protection in home countries (Reese

validly of the results obtained.

⁷ Regulation S was adopted by the SEC in conjunction with Rule 144A to enhance the liquidity of private placed market. In contrast to 144A, Regulation S are offered and traded to investors outside the U.S. The exclusion of Regulation S ADR programs is because of the similar characteristics with 144A programs and, in general, non-U.S. firms establish Regulation S as well as 144A ADR programs at the same time.

and Weisbach 2001).

Table 2 Summary of sample composition by country and ADR program

Country	144A	Level 1	Level 2/3	Total	Percentage of total firms
Panel A: Code-law countries					
Argentina	2	0	12	14	1.75
Austria	0	11	1	12	1.50
Belgium	0	2	1	3	0.37
Brazil	2	15	16	33	4.11
Chile	0	0	5	5	0.62
Colombia	2	0	1	3	0.37
Denmark	1	2	2	5	0.62
Finland	2	1	3	6	0.75
France	1	12	27	40	4.99
Germany	3	15	18	36	4.49
Greece	5	1	3	9	1.12
Italy	7	2	6	15	1.87
Japan	1	20	18	39	4.86
Jordan	1	1	0	2	0.25
Korea	13	2	6	21	2.62
Mexico	2	2	5	9	1.12
Netherlands	0	10	16	26	3.24
Norway	3	5	5	13	1.62
Peru	1	1	0	2	0.25
Philippines	5	5	1	11	1.37
Portugal	2	1	0	3	0.37
Spain	3	4	4	11	1.37
Sweden	1	2	1	4	0.50
Switzerland	0	5	12	17	2.12
Taiwan	37	0	5	42	5.24
Turkey	8	1	1	10	1.25
Venezuela	0	4	0	4	0.50
Subtotal	102	124	169	395	49.25
Percentage of subtotal	25.82	31.39	42.78	100.00	

(continued on next page)

Table 2 (continued)

Country	144A	Level 1	Level 2/3	Total	Percentage of total firms
Panel B: Common-law countries					
Australia	2	52	17	71	8.85
Hong Kong	1	81	8	90	11.22
India	34	1	10	45	5.61
Ireland	1	6	7	14	1.75
Israel	0	0	2	2	0.25
Malaysia	0	10	0	10	1.25
New Zealand	0	2	1	3	0.37
Pakistan	2	0	0	2	0.25
Singapore	0	17	2	19	2.37
South Africa	1	24	7	32	3.99
Sri Lanka	1	0	0	1	0.12
Thailand	0	12	0	12	1.50
United Kingdom	1	49	56	106	13.22
Subtotal	43	254	110	407	50.75
Percentage of subtotal	10.57	62.41	27.03	100.00	
Total	145	378	279	802	100.00
Percentage of total	18.08	47.13	34.79	100.00	

^a144A indicates privately placed ADRs trading on PORTAL system; Level 1 indicates ADRs trading on OTC Pink Sheet system; Level 2 indicates ADRs listing on U.S. securities markets, such as AMEX, NYSE, and NASDAQ; Level 3 indicates ADRs listing on U.S. securities market with the option of capital raising.

Source: Programs types and country data are from the website of The Bank of New York and the legal tradition of each country comes from La Portal et al. (1998).

In addition to the list of ADR programs, the exchange rates and financial and market data of cross-listed firms in the home country (home GAAP) are obtained from Worldscope Fundamentals in Datastream database of Thomson Financial. For comparability across the countries, the balance sheet data and share prices are converted into U.S. dollars using year-end exchange rates, while the income statement data are converted using the annual average exchange rates (Lang et al. 2003). In order to lessen the sensitivity of results caused

by extreme observations, the observations beyond the range of first and last percentile of each variable are removed.

5. Empirical results

Due to the differences in computational requirements of each model, the observations are varied across models. Therefore, the descriptive statistics and empirical result of each model is presented respectively.

5.1. Earnings management

The descriptive statistics for country-level measure of earnings management are presented in Table 3. The medians of the four earnings management indicators indicate that countries with common-law tradition have small magnitude in earning smoothing and discretion, with the exception of correlation between accruals and cash flow. Averagely, countries with code-law tradition have larger aggregate score (22.93) than countries with common-law tradition (18.50), meaning that code-law countries have larger magnitude in earnings management than common-law countries.

To formally test the hypothesis, both parametric t-test and nonparametric Wilcoxon rank-sum test are performed to compare the differences of earnings management between pre-cross-listing and post-cross-listing periods based on the same ADR program and legal tradition. The result is summarized in Panel A of Table 4. For Level 2/3 program, the differences of aggregate scores between pre- and post-cross-listing periods are positive, but the difference (5.160) is significant only in code-law countries, both in the t-test ($p = 0.055$) and the Wilcoxon rank-sum test ($p = 0.055$). On the other hand, for Level 1 ADR programs, the differences of aggregate scores between pre- and post-cross-listing periods are negative and insignificant.

The result in Panel A of Table 4 shows that non-U.S. firms with Level 2/3 programs from code-law countries experience declined magnitude in earnings management following cross-listing, and this cannot be found on firms from common-law countries. This implies only cross-listed firms from weak investor protection countries are bonded by the stringent U.S. investor protection environment and hence limit their discretions in reported earnings to demonstrate their respect to outside investors.

To enhance the robustness of the result, the aggregate scores are recomputed and tested to consider the following issues:

1. To lessen the result that could be contaminated by firms' behavioral change before cross-listing rather than caused by bonding forces of U.S. legal environment, the year immediately before the year of cross-listing is excluded from the analysis. Panel B of Table 4 indicates that the difference between pre- and post-cross-listing periods of Level 2/3 program in code-law countries is strengthened (from 5.160 to 5.299) and significant at a lower level ($p = 0.036$ in the t-test and $p = 0.039$ in the Wilcoxon rank-sum test).

Table 3 Scores of various measures for country-level earnings management

ADR program ^a	Country	CL ^b	Earnings smoothing		Earnings discretion		Aggregate score(+) ^g
			$\rho(\Delta\text{Acc}, \Delta\text{CFO})(-)^c$	$\sigma(\text{OI})/\sigma(\text{CFO})(-)^d$	$ \text{Acc} / \text{CFO} (+)^e$	$\# \text{ earn inc}/\# \text{ obs.}(+)^f$	
Panel A: Code-law countries							
144A	Taiwan	0	-0.731	0.855	0.640	0.018	17.25
144A	Taiwan	1	-0.898	0.894	0.563	0.008	20.75
Level 1	Austria	0	-0.968	0.663	0.614	0.583	37.13
Level 1	Austria	1	-0.898	0.637	0.631	0.550	36.75
Level 1	Brazil	0	-0.571	0.780	0.688	0.290	21.50
Level 1	Brazil	1	-0.870	0.692	0.605	0.296	30.75
Level 1	France	0	-0.697	0.811	0.420	0.455	19.75
Level 1	France	1	-0.847	0.899	0.469	0.667	25.75
Level 1	Germany	0	-0.946	0.744	0.795	0.583	36.38
Level 1	Germany	1	-0.661	1.084	0.585	0.318	17.25
Level 1	Japan	0	-0.763	0.853	0.502	0.056	16.88
Level 1	Japan	1	-0.897	0.538	0.494	0.034	26.50
Level 2/3	Brazil	0	-0.615	0.444	0.624	0.433	28.00
Level 2/3	Brazil	1	-0.818	0.716	0.390	0.227	21.25
Level 2/3	France	0	-0.887	0.661	0.458	0.769	33.00
Level 2/3	France	1	-0.816	0.981	0.602	0.347	22.75
Level 2/3	Germany	0	-0.759	1.161	0.430	0.600	19.25
Level 2/3	Germany	1	-0.782	1.065	0.509	0.286	19.00
Level 2/3	Japan	0	-0.794	0.765	0.393	na ^h	21.33
Level 2/3	Japan	1	-0.732	0.746	0.432	0.056	17.13
Level 2/3	Netherlands	0	-0.036	1.610	0.495	0.480	15.50
Level 2/3	Netherlands	1	-0.554	0.825	0.372	0.276	12.75
Level 2/3	Switzerland	0	-0.840	0.484	0.381	0.226	24.00
Level 2/3	Switzerland	1	-0.729	0.772	0.431	0.208	17.25
Mean		24	-0.755	0.820	0.522	0.338	22.93
Median		24	-0.788	0.776	0.499	0.296	21.88
Standard Deviation		24	0.189	0.244	0.112	0.222	6.81
Min		24	-0.968	0.444	0.372	0.008	12.75
Max		24	-0.036	1.610	0.795	0.769	35.25

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Table 3 (continued)

ADR program ^a	Country	CL ^b	Earnings smoothing		Earnings discretion		Aggregate score(+) ^g
			$\rho(\Delta\text{Acc}, \Delta\text{CFO})(-)$ ^c	$\sigma(\text{OI})/\sigma(\text{CFO})(-)$ ^d	$ \text{Acc} / \text{CFO} (+)$ ^e	$\# \text{ earn inc} / \# \text{ obs.}(+)$ ^f	
Panel B: Common-law countries							
Level 1	Australia	0	-0.841	0.968	0.476	0.154	17.50
Level 1	Australia	1	-0.758	0.691	0.482	0.269	22.75
Level 1	Hong Kong	0	-0.779	0.658	0.300	0.140	17.25
Level 1	Hong Kong	1	-0.865	0.674	0.500	0.069	25.00
Level 1	Malaysia	0	-0.811	0.379	0.226	0.238	21.25
Level 1	Malaysia	1	-0.845	0.711	0.347	0.257	21.50
Level 1	South Africa	0	-0.675	0.801	0.296	0.321	15.00
Level 1	South Africa	1	-0.937	0.810	0.375	0.196	21.00
Level 1	Thailand	0	-0.974	0.321	0.957	0.037	33.75
Level 1	Thailand	1	-0.870	0.771	0.592	na	30.33
Level 1	United Kingdom	0	-0.601	0.239	0.334	0.519	22.75
Level 1	United Kingdom	1	-0.728	0.546	0.359	0.448	22.75
Level 2/3	India	0	-0.660	0.841	0.210	na	8.33
Level 2/3	India	1	-0.635	1.234	0.188	na	3.33
Level 2/3	South Africa	0	-0.840	0.826	0.270	0.160	14.25
Level 2/3	South Africa	1	-0.572	0.961	0.384	na	9.67
Level 2/3	United Kingdom	0	-0.786	1.013	0.219	0.444	14.75
Level 2/3	United Kingdom	1	-0.866	0.857	0.326	0.438	20.25
Mean		18	-0.780	0.739	0.380	0.264	18.50
Median		18	-0.799	0.786	0.340	0.248	18.13
Standard Deviation		18	0.114	0.251	0.181	0.151	8.87
Min		18	-0.974	0.239	0.188	0.037	3.33
Max		18	-0.572	1.234	0.957	0.519	43.67

^a144A indicates privately placed ADRs trading on PORTAL system; Level 1 indicates ADRs trading on OTC Pink Sheet system; Level 2 indicates ADRs listing on U.S. securities markets, such as AMEX, NYSE, and NASDAQ; Level 3 indicates ADRs listing on U.S. securities market with the option of capital raising.

^bCL is a dummy variable indicates cross-listing status and takes 0(1) if observation is within 5 years before(after) cross-listing.

^cSpearman correlation between changes in accruals and changes in cash flow from operations of firms in a country, and smaller value implies more earnings smoothing.

^dStandard deviations of operating earnings divided by the standard deviations of cash flow from operations of firms in a country, and smaller ratio implies more earnings

smoothing.

^eMedian of absolute value of accruals divided by absolute value of cash flow from operation of firms in a country, and larger ratio means more discretions.

^fNumber of small increasing income divided by total number of observations, and small increasing income is defined as change in net income before extra items scaled by lagged total assets in the range between 0 and 0.04. Larger ratio means more discretion.

^gEach of the four measures is ranked and then averaged across the same cross-listed status, ADR programs, and country to form an overall measure of earnings management. The larger ranking score means the greater magnitude of earnings management.

^hna indicates there exists no observation in the ADR program of the country under the definition of small earnings increasing.

2. In computing the proportion of small earning increasing, small earning increasing is defined as the change in net income before extra items scaled by lagged total assets in the range between 0 and 0.04 to enhance the availability (88% of observations is available) of this measure. But the larger the range is, the smaller the capacity of the measure to capture the discretion of managers in reported earnings. The range is redefined to be between 0 and 0.01 to enhance the ability of measurement; however, the availability of the measure is reduced to 71% of total observations. Panel C of Table 4 indicates the result is not affected by the definition of small earnings increasing, the difference (4.569) is significant at the 0.069 levels in the t-test and qualitatively similar in the Wilcoxon rank-sum test.

Table 4 Changes in aggregate scores of earnings management for each country and ADR program around cross-listing

ADR Program ^a	Legal Tradition ^b	N	Pre-listing ^c		Post-listing ^d		Pre – Post ^c	t-test		Wilcoxon rank-sum test		
			Mean	Std. Dev.	Mean	Std. Dev.		t-values	p-values ^d	z-values	p-values ^d	
Panel A: Main model												
All	All	21	21.657	7.838	21.165	7.295	0.492	0.211	0.417	–0.352	0.638	
Level 2/3	CD/CM	9	19.824	7.649	15.931	6.266	3.894	1.181	0.127	0.927	0.177	
Level 2/3	CD	6	23.514	6.285	18.354	3.529	5.160	1.754	0.055	1.601	0.055	
Level 2/3	CM	3	12.444	3.569	11.083	8.547	1.361	0.255	0.406	0.218	0.414	
Level 1	CD/CM	11	23.557	8.193	25.485	5.461	–1.928	–0.649	0.738	–1.217	0.888	
Level 1	CD	5	26.325	9.663	27.400	7.162	–1.075	–0.200	0.577	–0.313	0.623	
Level 1	CM	6	21.250	6.747	23.889	3.447	–2.639	–0.853	0.793	–1.290	0.902	
Panel B: Excluding the year before cross-listing												
All	All	21	21.456	7.256	19.933	7.152	0.492	0.685	0.249	0.189	0.575	
Level 2/3	CD/CM	9	19.782	5.725	14.815	5.934	4.968	1.807	0.045	1.634	0.051	
Level 2/3	CD	6	22.257	5.288	16.958	3.710	5.299	2.009	0.036	1.761	0.039	
Level 2/3	CM	3	14.833	2.466	10.528	8.068	4.306	0.884	0.213	0.655	0.256	
Level 1	CD/CM	11	22.777	8.638	24.068	5.633	–1.292	–0.415	0.659	–1.183	0.882	
Level 1	CD	5	23.575	8.258	25.900	7.472	–2.325	–0.467	0.674	–0.313	0.623	
Level 1	CM	6	22.111	9.669	22.542	3.555	–0.431	–0.102	0.540	–1.601	0.945	

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Table 4 (continued)

ADR Program ^a	Legal Tradition ^b	N	Pre-listing ^c		Post-listing ^c		Pre – Post ^c	t-test		Wilcoxon rank-sum test		
			Mean	Std. Dev.	Mean	Std. Dev.		t-values	p-values ^d	z-values	p-values ^d	
Panel C: Redefining small earning increasing as in the range of 0 to 0.01 of earnings change deflated by assets												
All	All	21	21.222	8.488	20.845	7.629	0.377	0.151	0.440	-0.315	0.623	
Level 2/3	CD/CM	9	19.102	7.223	15.278	5.710	3.824	1.246	0.115	0.663	0.254	
Level 2/3	CD	6	22.361	6.281	17.792	2.922	4.569	1.616	0.069	1.601	0.131	
Level 2/3	CM	3	12.583	3.803	10.250	7.226	2.333	0.495	0.323	0.218	0.414	
Level 1	CD/CM	11	22.856	9.760	24.811	6.396	-1.955	-0.556	0.708	-1.018	0.846	
Level 1	CD	5	24.450	8.201	27.517	8.060	-3.067	-0.596	0.567	-0.522	0.699	
Level 1	CM	6	21.528	11.491	22.556	4.052	-1.028	-0.207	0.580	-1.283	0.900	

^aLevel 1 indicates ADRs trading on OTC Pink Sheet system; Level 2 indicates ADRs listing on U.S. securities markets, such as AMEX, NYSE, and NASDAQ; Level 3 indicates ADRs listing on U.S. securities market with the option of capital raising; 144A indicates privately placed ADRs trading on PORTAL system and are dropped because of limited observations.

^bCD(CM) indicates code(common) law countries (La Porta et al. 1997; 1998).

^cPre(post)-listing indicates aggregate scores for pre(post)-listing. Pre – Post is the pre-listing aggregate scores minus post-listing aggregate scores.

^dOne-tailed test.

5.2 Timely loss recognition

Table 7 summarizes the descriptive statistics for variables used in the earnings-returns regressions, which are conducted to study the asymmetric recognition of good news and bad news into reported earnings following cross-listing. The result of timely loss recognition following cross-listing for each ADR program is summarized in Table 8, where Panel A and B present the result under legal tradition and country cluster approach respectively.

Table 7 Descriptive statistics for models on timely loss recognition

Variables	N	Mean	Median	Std. Dev.	Min	Max
Panel A: Pre-listing						
CD	619	0.3635	0.0000	0.4814	0.0000	1.0000
IP1	593	0.5447	1.0000	0.4984	0.0000	1.0000
IP2	593	0.3322	0.0000	0.4714	0.0000	1.0000
IP3	593	0.1231	0.0000	0.3288	0.0000	1.0000
NR	619	0.3247	0.0000	0.4686	0.0000	1.0000
R	619	0.1396	0.1626	0.4931	-1.8817	1.5481
NI	619	0.0673	0.0623	0.2838	-2.9371	2.1946
Panel B: Post-listing						
CD	625	0.3648	0.0000	0.4818	0.0000	1.0000
IP1	603	0.5506	1.0000	0.4978	0.0000	1.0000
IP2	603	0.3201	0.0000	0.4669	0.0000	1.0000
IP3	603	0.1294	0.0000	0.3359	0.0000	1.0000
NR	625	0.4800	0.0000	0.5000	0.0000	1.0000
R	625	-0.0312	0.0210	0.5278	-1.8496	1.5937
NI	625	0.0498	0.0523	0.3902	-2.4417	3.9707

^aCD indicates code-law countries (La Porta et al. 1997; 1998); IP1 indicates outsider economics, IP2 indicates insider economics with strong legal enforcement, and IP3 indicates insider economics with weak legal enforcement (Leuz et al. 2003); NR is a dummy variable to indicate bad news, taking value of 1 if R is negative and 0 otherwise; R is the return cumulated over the sixteen months ending four months after fiscal year-end; NI is operating income per share deflated by price at the beginning of the period.

Examining the coefficients of CL*CD*NR*R (bad news in code-law firms following cross-listing) across ADR programs on Panel A of Table 8 shows the significant positive coefficient under Level 2/3 program (coefficient = 0.4023 and p-value = 0.028), which indicates that code-law

firms incorporate bad news more efficiently following cross-listing on U.S. securities markets. The positive coefficient cannot be found in common-law firms (the coefficient of CL*NR*R on Level 2/3 program is negative), confirming the bonding power of Level 2/3 programs over the weak investor protection code-law firms but not over the strong investor protection common-law firms.

The result in Panel B of Table 8 further supports the evidence found in the legal tradition approach. The negative coefficient of CL*NR*R indicates firms in outsider economics (IP1) do not incorporate bad news more quickly following cross-listing; on the other hand, the positive coefficients of CL*IP2*NR*R (Coefficient = 0.4476 and p-value = 0.030) and CL*IP3*NR*R (Coefficient = 0.6133 and p-value = 0.007) indicate firms in insider economics do incorporate bad news more quickly following cross-listing. In addition, compared with CL*IP2*NR*R (0.4476), the larger coefficient of CL*IP3*NR*R (0.6133) indicates the magnitude of incorporating bad news is larger in insider economics with weak legal enforcement (IP3) than in insider economics with strong legal enforcement (IP2).

The result from both legal tradition and country cluster approach provides evidence about the bonding power of cross-listing on U.S. securities market (Level 2/3 programs) reshape the incentives of managers to more timely incorporate bad news into reported earnings and the strength of bonding power is negatively related to the level of investor protection in the home country. To increase the robustness of the result, the year immediately before the year of cross-listing is excluded from the analysis to avoid firms' behavioral change before cross-listing. After excluding the observations of the year, the observations for each ADR programs in each models drop about one third. Untabulated result shows that the findings in the legal tradition approach is even stronger than the results in Panel A of Table 8 (coefficient of CL*CD*NR*R is 0.5880 and significant at the 0.014 level). However, the result of the country cluster approach is unavailable due to the insufficient observations of insider economics with weak legal enforcement (IP3) in the pre-listing periods.

Table 8 Multiple regression models of earnings on good news, bad news, and levels of investor protection for each ADR program around cross-listing

Panel A: Legal tradition approach ^a							
Variables ^b	Expected Sign	Level 2/3 ^c		Level 1 ^c		144A ^c	
		Coefficients (t-values)	p-values ^d	Coefficients (t-values)	p-values ^d	Coefficients (t-values)	p-values ^d
R		0.0127 (0.23)	0.821	-0.0402 (-0.31)	0.754	0.2517 (0.25)	0.802
CL*R		0.0747 (1.09)	0.278	0.0496 (0.25)	0.805	1.2617 (1.07)	0.287
CD*R		-0.0222 (-0.38)	0.706	0.0184 (0.13)	0.894	-0.1727 (-0.17)	0.865
CL*CD*R		-0.0633 (-1.10)	0.271	-0.0047 (-0.03)	0.978	-1.3936 (-1.20)	0.233
NR*R	+	0.3686 (1.88)	0.031	0.2176 (1.24)	0.108	0.8384 (0.11)	0.458
CL*NR*R	+	-0.3489 (-1.71)	0.956	0.0168 (0.06)	0.475		
CD*NR*R	-	-0.2680 (-1.34)	0.091	-0.3061 (-1.30)	0.097	-1.3197 (-0.17)	0.434
CL*CD*NR*R	+	0.4023 (1.92)	0.028	0.1966 (0.68)	0.249	0.5473 (0.85)	0.200
N		432		693		119	
N(CD/CM)		212/220		128/565		113/6	
F statistic		5.40	0.000	2.90	0.000	0.66	0.795
R ²		0.1670		0.0254		0.0758	

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Table 8 (continued)

Panel B: Country cluster approach ^a							
Variables ^b	Expected Sign	Level 2/3 ^c		Level 1 ^c		144A ^c	
		Coefficients (t-values)	p-values ^d	Coefficients (t-values)	p-values ^d	Coefficients (t-values)	p-values ^d
R		0.0864 (1.21)	0.225	-0.0137 (-0.19)	0.851	-0.0345 (-0.08)	0.937
IP2*R		-0.0392 (-0.53)	0.597	0.1603 (1.08)	0.280	0.1087 (3.37)	0.001
IP3*R		-0.0637 (-0.88)	0.381	-0.2905 (-0.45)	0.651	0.0783 (0.72)	0.471
CL*R		-0.0199 (-0.35)	0.728	0.0041 (0.04)	0.970	1.0507 (1.61)	0.110
CL*IP2*R		-0.0381 (-0.61)	0.545	-0.0499 (-0.31)	0.756	0.6560 (1.27)	0.206
CL*IP3*R		0.0045 (0.08)	0.940	0.4560 (0.50)	0.615	-0.1032 (-0.60)	0.553
NR*R	+	0.3609 (1.60)	0.055	0.3072 (1.99)	0.024		
IP2*NR*R	-	-0.3121 (-1.36)	0.087	-0.8076 (-2.32)	0.055	-0.0034 (-0.02)	0.493
IP3*NR*R	-	-0.5565 (-2.28)	0.012	0.0898 (0.13)	0.721	-0.7967 (-0.66)	0.255
CL*NR*R	+	-0.3244 (-1.45)	0.962	0.0249 (0.11)	0.455		
CL*IP2*NR*R	+	0.4476 (1.90)	0.030	0.6623 (1.73)	0.015	-0.8037 (-1.46)	0.927
CL*IP3*NR*R	+	0.6133 (2.47)	0.007	-1.2418 (-1.06)	0.855	0.9952 (0.81)	0.209
N		394		683		119	
N(IP3/IP2/IP1)		45/158/191		50/147/459		56/58/5	
F statistic		4.49	0.000	2.41	0.001	5.36	0.000
R ²		0.2012		0.0879		0.0784	

^aThe White estimator of variance is used to correct the heteroscedasticity (White 1980) and intercepts are not reported.

^bCD indicates code-law countries (La Porta et al. 1997; 1998); CL indicates cross-listing status and equals 1 if cross-listed and 0 otherwise; IP1 indicates outsider economics, IP2 indicates insider economics with strong legal enforcement, and IP3 indicates insider economics with weak legal enforcement (Leuz et al. 2003); NR is a dummy variable to indicate bad news, taking value of 1 if R is negative and 0 otherwise; R is the return cumulated over the sixteen months ending four months

after fiscal year-end; NI is operating income per share deflated by price at the beginning of the period.

^c144A indicates privately placed ADRs trading on PORTAL system; Level 1 indicates ADRs trading on OTC Pink Sheet system; Level 2 indicates ADRs listing on U.S. securities markets, such as AMEX, NYSE, and NASDAQ; Level 3 indicates ADRs listing on U.S. securities market with the option of capital raising.

^dOne-tailed test for variables with expected signs.

6. Conclusions

Coffee (2002) interprets cross-listing as “a bonding mechanism by which firms incorporated in jurisdictions with weak protection of minority rights or poor enforcement mechanisms can voluntarily subject themselves to higher disclosure standards and stricter enforcement in order to attract investors who would otherwise be reluctant to invest.” By means of establishing Level 2/3 ADR programs, non-U.S. firms not only commit themselves to the stricter securities laws but also face the more rigorous litigious environment in the U.S. Subject to the stringent U.S. legal system on investor protection, where outside investor can more effectively exercise their rights to prevent the expropriation from the insiders, the incentives for the insiders and auditors are reshaped. These have forced non-U.S. firms to more respect outside investors and limit the expropriations on them. In short, the reshaped incentives lead to the improvement of financial reporting quality in the wake of cross-listing.

The concept of financial reporting quality is operationalized with the construct of earnings attribute, which includes earnings management and timely loss recognition. Following the establishment of Level 2/3 ADR program, the magnitude of earnings management is reduced and the recognition of loss into earnings becomes more efficient. Furthermore, these changes are observed only in non-U.S. firms with weak but not strong investor protection in their home countries.

The empirical result has suggested that the stricter U.S. legal protection on investors reshapes the incentives of the insiders and auditors, which in turn changes the financial reporting behavior of

cross-listed firms. Specifically, the weaker the investor protection of the home country is, the more significant impact of U.S. legal system will have, and the larger effect of improvement can be observed.

The findings of this paper are complementary to prior research, supporting that the legal system is a crucial element to corporate governance of a country. An effective legal system can protect outside investors from the expropriation by the insiders, which in turn reshapes the incentives of the insiders to financial reporting and further improves the quality of financial reporting. In addition, the finding also highlights how the level of investor protection in the home country influence the bonding power of U.S. cross-listing over financial reporting, supplementing the findings in subsequent equity offerings and premium on dual-class shares (Reese and Weisbach 2002; Lang et al. 2003; Doidge 2004).

Finally, although various measurers are used to proxy earnings attributes and levels of investor protection, still cautious interpretation of these empirical results is needed. In addition to the empirical works (e.g., Ball et al. 2000; Ball et al. 2003; Lang et al. 2003; Leuz et al. 2003), the accounting academia may need to build a more sound and comprehensive theoretical framework on the association between legal system and the quality of financial reporting. The establishment of this framework is pivotal to the policy implications of both global corporate governance mechanism and the effectiveness of global capital markets.

Reference

- Ball, R. 2001. Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. *Brookings-Wharton Papers on Financial Services*. 127–182.
- Ball, R., S. Kothari, and A. Robin. 2000. The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics* 29: 1–51.
- Ball, R., A. Robin, and J. Wu. 2003. Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting and Economics* 36: 235–270.
- Barth, M., J. Elliott, and M. Finn. 1999. Market rewards associated with patterns of increasing earnings. *Journal of Accounting Research* 37: 387–413.

- Bartov, E., F. Gul, and J. Tsui. 2000. Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics* 30: 421–452.
- Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24: 3–37.
- Bhattacharya, U., H. Daouk, and M. Welker. 2003. The world price of earnings opacity. *The Accounting Review* 78: 641–678.
- Burgstahler, D., and I. Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24: 99–126.
- Bushman, R., and J. Piotroski. 2006. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. *Journal of Accounting and Economics* 42: 107–148.
- Coffee, J. 1999. The future as history: The prospects for global convergence in corporate governance and its implications. *Northwestern University Law Review* 93: 641–708.
- Coffee, J. 2002. Racing towards the top? The impact of cross-listings and stock market competition on international corporate governance. *Columbia Law Review* 102: 1757–1831.
- Doidge, C. 2004. U.S. cross-listings and the private benefits of control: Evidence from dual-class firms. *Journal of Financial Economics* 72: 519–553.
- Doidge, C, A. Karolyi, and R. Stulz. 2004. Why are foreign firms listed in the U.S. worth more? *Journal of Financial Economics* 71: 205–238.
- Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2004. Costs of equity and earnings attributes. *The Accounting Review* 79: 967–1010.
- Francis, J., K. Schipper, and L. Vincent. 2003. The relative and incremental explanatory power of earnings and alternative (to earnings) performance measures for returns. *Contemporary Accounting Research* 20: 121–164.
- Healy, P. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7: 85–107.
- Healy, P., and J. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13: 366–383.
- Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193–228.
- La Porta, R., F. Lopez-de-Silanes, and A. Shleifer. 1997. Legal determinants of external finance. *Journal of Finance* 52: 1131–1150.
- La Porta, R., F. Lopez-de-Silanes, and A. Shleifer. 1998. Law and finance. *Journal of Political*

Economy 106: 1113–1155.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer. 2000. Investor protection and corporate governance. *Journal of Financial Economics* 58: 3–27.

Lang, M., J. Raedy, and M. Yetman. 2003. How representative are firms that are cross-listed in the United States? An analysis of accounting quality. *Journal of Accounting Research* 41: 363–386.

Leuz, C., D. Nanda, and P. Wysocki. 2003. Earning management and investor protection: an international comparison. *Journal of Financial Economics* 69: 505–527.

Matsumoto, D. 2002. Management's incentives to avoid negative earnings surprises. *The Accounting Review* 77: 483–514.

Reese, W., and M. Weisbach. 2002. Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings. *Journal of Financial Economics* 66: 65–104.

Schipper, K., and L. Vincent. 2003. Earnings quality. *Accounting Horizons* 17: 97–110.

Sigel, J. 2005. Can foreign firms bond themselves effectively by renting U.S. securities laws? *Journal of Financial Economics* 75: 319–359.

Skinner, D., and R. Sloan. 2001. Earnings surprises, growth expectations and stock returns or don't let a torpedo stock sink your portfolio. Working paper. University of Michigan.

Watts, R. 2003a. Conservatism in accounting part I: Explanations and implications. *Accounting Horizons* 17: 207–221.

Watts, R. 2003b. Conservatism in accounting part II: Evidence and research opportunities. *Accounting Horizons* 17: 287–301.

White, H. 1980. Heteroscedasticity consistent covariance matrix estimator and a direct test of heteroscedasticity. *Econometrica* 48: 817–838.