# Impact of Assets quality management on profitability and shareholders' Value – The case of Jordanian Listed Commercial Banks (2001 – 2012)

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**Abstract:-**

Solidity of the country`s economy depends mainly on the strength of the financial system. (Beck and Levine, 2004), argued that healthy banking sector has a positive influence on economic growth. Being the core of any financial system, banking sector plays an essence role in its stability in recent days. The analysis of the type of assets that banks hold and its quality, is due to the significant importance on the overall performance and the financial results of the bank, IMF (2011) assets quality demonstrate a threat to banking sector stability. This study will investigate and assess the impact of total credit to total assets and total investment to total assets as a proxy for assets quality (independent variables) on the bank`s performances represented by EPS, ROA, ROE and Book value per share (Dependant variable). Applying multi and simple regression analysis, the most significant result was that bank`s assets quality indicators collectively have a positive impact on the profitability as well as shareholders value indicators, this implies the importance of investment diversification that banks` financial management should take into consideration to achieve sustainability in its performance.

**Keywords**: Assets quality, Banking, Profitability, Shareholder`s value

## 1. INTRODUCTION:-

Commercial banks stability is indispensible for economy survival, Swamy, (2013) indicated to the significance is better understood during the 2008 financial crisis, as any inability to ensure its stability will definitely lead to a disaster to the financial system. Djiogap and Ngomsi (2012), due to their imminent role in attracting financial resources through pooling of savings, commercial banks play very significant phenomena in economic development and its growth. We can't also ignore the importance of banks stability to the countries, as banking system stability indicates positive economic development. Tarawneh (2006), banking institutions are the main providers of funds to all business sectors. Thus, banks play a very vital role in the country`s economy, they the main providers of funds to different sectors that operate within the economy. Chaudery, S. & Singh S, (2012) banks were established in order to achieve social and economic goals by advancing loans to different economic sectors on priority basis. Ouertani et al (2008), assets management of facilities or equipment is a very challenging job in order to optimize its efficiency and usage. Chisti, (2012), assets quality is one of the most important and crucial areas in determining the overall performance and condition of banks, Lokare (2014) as sound and healthy banking system is indispensible for dynamic financial mediation in the context of economic development.

Banking sector in Jordan constitute almost 44% of the total market value of all listed companies in Amman Stock Exchange – ASE, with total assets value of J.D. 50.85 billion ($ 71.71 billion) as of 2012, that is 80.31% of the total asset value of listed companies in ASE, with an average total assets value of 79.92% for the period (Appendix:1). In addition to that, the banking sector market capitalization amounted to J.D. 8.36 billion ($ 11.79 billion) which count to 44% of the total market capitalization end of 2012 (Appendix:2) this contemplate the degree of significance of the banking sector to the Jordanian economy.

This study is based on some certain specific questions such as: (a) what is the impact of assets quality on the banking sector performance? (b) do assets quality affect the shareholders value? (c) what is the nature of relation associated between assets quality from one side and profitability and shareholders' value from another side? And finally (d) what are the outcome can be learned in the context of assets quality, shareholders value and profitability. The rest of the study will drawn as follow, section (2) will focus theoretical foresight of the most contemporary literatures related assets quality, section (3) will shed light on the data, research methodology and analytical method of the study, while section (4) will end with study conclusion and results.

## 2. STUDY OBJECTIVES:-

The case of assets quality management in general and in banking industry in particular has not been researched much in Jordan, thus the objectives of this study is to analyze the impact and effect of assets quality on commercial banks` profitability and shareholders' value, excluding Islamic banks listed in ASE due to their specific nature in term of investments and granting loans. Objectives of the study can be summarized with the help of the following points:-

1- To point out the pros and cons of assets quality management by banks.
2- Analyze and narrate the concept of assets quality management from banks` point of view.
3- Study the nature of relation associated between assets management with the profitability indicators.
4- To investigate on the impact nature of assets quality on shareholder`s value.

## 3. LITERATURE PREVIEW:-

Levine, (2004) and Singh, (2005) the significant importance of the financial system to economic growth has been identified by many researchers. Asset quality management by banks has been one of the major issues for research, as its deemed to be one of the most crucial indicator of bank`s financial position. IMF (2009), better assets quality management will ultimately lead to increase in the level of profitability.

Hong (2004), Assets management is one of the tools that measure management efficiency, as it measures how effectively management is utilizing and controlling its assets. Recently the importance of assets management has increased, which made it a strategic task for management. In this study we will concentrate on the assets quality management by banks, as it's considered of extreme importance to banks in general, Streeter, W. (2000) concluded that assets quality management is deemed to be one of the major problems for management, while Gene Miller (Chairman and CEO of America Corp.) emphasized that assets quality is the one of the most important issues of management. Assets quality and credit risk are inter-related and it's of great concern to the supervisory authorities in the country, as the stability of the economy depends mainly on the stability of the financial system which is directly affected by Assets quality composition. Muniappan (2003) concentrated on two parts, the first one is defiance's facing banks and the second one the management of theses defiance's, and stressed on the importance of risk and NPA that the banking industry should take care of.

Saksonova & Solovjova, I. (2011), applying a systematic approach, the study was an attempt to search into the macroeconomic factors impact on stability of commercial banks system in addition to the profitability and quality of commercial bank assets; the researcher found a problem in the assets quality and profitability, they recommended that commercial banks have to do a regular analysis of macroeconomic factors in a professional way to ensure commercial banks stability. Debarsh and Sukanya (2011) emphasized on management of non-performing assets-NPA related to public banks in India, indicated that NPAs is an important indicator in analyzing financial performance. Chisti (2012) used multi regression analysis to study loan quality effect on bank`s performance on a number of banks as a sample during 2006 - 2011reaching to a conclusion that there bank operating performance is negatively correlated with bad assets ratios. Chaudhary & Singh (2012), investigated the impact of Reserve Bank of India – RBI reforms on the assets quality of the Indian banks, the researchers reach to a conclusion that the reforms led to a decline in the NPAs and transformed the Indian banks into prosperous and strong banking industry. Swamy (2013) emphasized on the Non-Performing Assets – NPAs as a counterparty risk that faces financial institutions in general and commercial banks in particular, that may lead to financial system instability and if it's not monitored in a proper way it may lead to financial shock and crisis. LIU Ruiwen, XU Wenxue, (2013), they analyzed four factors affecting sustainable growth of the business (existence, Security, Structure and effectiveness, and they reached to a conclusion of the importance of importance of efficient and dynamic assets quality management and recommended that a keen interest should be taken in regard to quality assets management to ensure sustainable growth of the business.

Bebeji, (2013), studied the effect of banks` consolidation on the non-performing assets on Nigerian banks using t-test analysis, where he reached to a conclusion that banks` consolidation affects non-performing assets positively and recommended that regulatory authorities should impose strict provision requirement on non-performing assets to ensure sustainable bank liquidity to face any economic shocks or downturns. Alhassan, A. at el (2013), based on the financial database of 25 Ghanaian banks they found that the impairment of assets quality level do affect the lending behavior of banks, in addition to other factors such as deposit induction. Yadav, M., S. (2011), public sector banks profitability is highly affected and to a very large extent with assets quality along with other variables such as productivity and management efficiency.

Bock and Demyanets (2012), found a significant relationship between credit and macroeconomic factors with assets quality and due to fall in GDP led to increase in the volume of non-performing loans. Thiagarajan, S. at el (2011), on their study of market discipline role on commercial banks` behavior in respect of capital adequacy, indicated to the significant influence of NPAs on cost of capital on both commercial banks as well as public banks.

## 4. THE CONCEPT OF ASSETS QUALITY AND FACTORS AFFECTING IT:-

When we talk about assets quality terminology we imply to loan portfolio and its components, or investment securities, real estate, and other assets items. Chisti, K. A., (2012) loans is considered the largest assets item for banks and it bears the highest expected degree of risk for banks` investments. Non-performing assets-NPA is one of the implications of assets quality which is a permanent phenomena in bank`s balance sheet that should be supervised in order to be contained.

Assets quality is primarily affected by the quality of loans portfolio as banks major investments in concentrated on loans which is affected by management efficiency in managing their available resources. Balasubramaniam C. S. (2013) and Mpuga (2002) stated that capital adequacy had a very significant effect on assets quality, as the increase in capital ratio ended with the increase in the level NPAs and NPLs. Robert (2002) granting loans on indiscriminate base will lead to bad assets quality, deterioration of capital and no dividend. Saksonova, I., & Solovjova, I. (2011), study implied to the important role of central bank rules and regulations regarding assets composition of banks. More over the assets quality may be affected by diversification level of bank investments in loans and securities, quality of bank loan, management efficiency and assets` risk level.

## 5. RESEARCH HYPOTHESES:-

The below hypothesis were synthesized for the purpose of this study:-

- There is no meaningful relationship associated between banks` assets quality and profitability indicators.
- There is no meaningful relationship associated between banks` assets quality and shareholders` value.

## 6. DATA BASE AND METHODOLOGY:-

The study is based mainly on secondary data provided by Amman Stock exchange-ASE. The data were extracted from the statement of financial position and statement of financial results for the period (2001-2012) (Appendix:2). Out of (15) banks listed in ASE a sample of all (13) commercial banks listed in ASE were selected for the study. ROA, ROE and EPS as a proxies for profitability (Dependent Variables), also Price to share book value (PBV) and share book value (BV) as a proxy for shareholder`s value (Dependant Variable), while gross loans to total assets (GLTA) and Portfolio to total assets (PTA) and non performing loans to gross loans (NPLTA) as a proxies of assets quality (Independent variables).

## 7. STUDY MODELS:-

Using pooled data panel / ordinary least square (OLS) for the purpose of narrating the effect of each independent variable individually on each dependent variable (Profitability and shareholder`s value) of the study by adopting the following models (Simple Linear Regression):

### a- Profitability Indicators (ROA)

$ROA,t = \alpha + \beta 1\ GLTAi,t + Ɛi,t$ …….. (1)

$ROA,t = \alpha + \beta 1\ PTAi,t + Ɛi,t$ …….. (2)

$ROA,t = \alpha + \beta 1\ NPLTAi,t + Ɛi,t$ …….. (3)

### b- Profitability Indicators (ROE):-

$ROE,t = \alpha + \beta 1\ GLTAi,t + Ɛi,t$ …….. (4)

$ROE,t = \alpha + \beta 1\ PTAi,t + Ɛi,t$ …….. (5)

$ROE,t = \alpha + \beta 1\ NPLTAi,t + Ɛi,t$ …….. (6)

### c- Profitability Indicators (EPS)

$EPS,t = \alpha + \beta 1\ GLTAi,t + Ɛi,t$ …….. (7)

$EPS,t = \alpha + \beta 1\ PTAi,t + Ɛi,t$ …….. (8)

$EPS,t = \alpha + \beta 1\ NPLTAi,t + Ɛi,t$ …….. (9)

### d- Shareholder`s value indicators (PBV)

$PBV,t = \alpha + \beta 1\ GLTAi,t + Ɛi,t$ …….. (10)

$PBV,t = \alpha + \beta 1\ PTAi,t + Ɛi,t$ …….. (11)

$PBV,t = \alpha + \beta 1\ NPLTAi,t + Ɛi,t$ …….. (12)

### e- Shareholder`s value indicators (BV)

$BV,t = \alpha + \beta 1\ GLTAi,t + Ɛi,t$ …….. (13)

$BV,t = \alpha + \beta 1\ PTAi,t + \varepsilon i,t$ …….. (14)
$BV,t = \alpha + \beta 1\ NPLTAi,t + \varepsilon i,t$ …….. (15)

The results of the analysis can be shown in the following table:

**Table (1): Simple linear regression results**

| Profitability Indicators | | | | | | |
|---|---|---|---|---|---|---|
| | α | β | R | $R^2$ | Sig. | Ɛ |
| GLTA & ROA | 0.016 | -0.007 | 0.076 | 0.006 | 0.352 | 0.0099 |
| PTA & ROA | 0.011 | 0.012 | 0.129 | 0.017 | 0.114 | 0.0099 |
| NPLTA & ROA | 0.015 | -0.029 | 0.275 | 0.076 | 0.001 | 0.0098 |
| | | | | | | |
| GLTA & ROE | 0.086 | 0.045 | 0.071 | 0.005 | 0.386 | 0.0698 |
| PTA & ROE | 0.119 | -0.060 | 0.089 | 0.008 | 0.274 | 0.0697 |
| NPLTA & ROE | 0.110 | -0.040 | 0.055 | 0.003 | 0.504 | 0.0699 |
| | | | | | | |
| GLTA & EPS | 0.317 | -0.185 | 0.100 | 0.010 | 0.222 | 0.2059 |
| PTA & EPS | 0.225 | 0.027 | 0.014 | 0.000 | 0.867 | 0.2069 |
| NPLTA & EPS | 0.275 | -0.588 | 0.270 | 0.073 | 0.001 | 0.1991 |
| Shareholders Value \|Indicators | | | | | | |
| GLTA & PTBV | 2.264 | -1.123 | 0.138 | 0.019 | 0.089 | 0.9799 |
| PTA & PTBV | 2.108 | -2.140 | 0.228 | 0.052 | 0.005 | 0.9634 |
| NPLTA & PTBV | 1.889 | -0.031 | 0.003 | 0.000 | 0.971 | 0.9894 |
| | | | | | | |
| GLTA & BV | 3.428 | -2.769 | 0.188 | 0.035 | 0.021 | 1.6126 |
| PTA & BV | 1.895 | 1.173 | 0.075 | 0.006 | 0.357 | 1.6371 |
| NPLTA & BV | 2.451 | -4.286 | 0.248 | 0.062 | 0.002 | 1.5902 |

The testing of each type of assets quality (GLTO, PTA and NPLTA) effect and impact on the profitability and shareholder`s value, shows that there is no effect or impact associated between each independent variable from one side and dependant variables from the other side except significant weak effect and correlation between banks` investments (PTA) and PTBV also the positive effect and correlation of gross loans (GLTA) and non-performing loans (NPLTA) on banks` book value, which means that there is a significant correlation and effect between these variable.

The aforementioned results were not impressive and not conclusive; therefore multi linear regression was conducted and econometric model for the purpose was applied as follow:

**First- Assets Quality and Profitability Indicators:**

$ROA_{i},t = \alpha + \beta 1\ GLTAi,t + \beta 2\ PTAi,t + \beta 3\ NPLTAi,t + \varepsilon i,t$ …….. (16)
$ROE_{i},t = \alpha + \beta 1\ GLTAi,t + \beta 2\ PTAi,t + \beta 3\ NPLTAi,t + \varepsilon i,t$ …….. (17)
$EPS\ i,t = \alpha + \beta 1\ GLTAi,t + \beta 2\ PTAi,t + \beta 3\ NPLTAi,t + \varepsilon i,t$ …….. (18)

**The result of multi linear regression analysis can be expressed by substituting the above equations as follow:**

$ROA_{i,t} = 0.024 + -0.009 + 0.009 + -0.025 + 0.0092$ ……..(16)
$ROE_{i},t = 0.146 + 0.022 + -0.036 + -0.032 + 0.0674$ ……..(17)
$EPS\ i,t = 0.566 + -0.291 + -0.067 + -0.584 + 0.1857$ ……..(18)

**Table (2):The Output of Multi Linear Regression Analysis (bank`s assets quality) on each of the Profitability Indicators**

| | $R^2$ | Sig. |
|---|---|---|
| ROA | 0.177 | 0.000 |
| ROE | 0.093 | 0.006 |
| EPS | 0.211 | 0.000 |

We can observe from table (2) above, that Banks' Assets Quality Indicators (Predictors) have a significant impact on the criterions variables (ROA, ROE and EPS) where the p-values (Sig. values) for each model where (0.000, 0.006 and 0.000) and all of these variables values are less than 0.05, that indicates a strong evidence against the null hypothesis, so we reject the null hypothesis. Therefore there is a significant meaningful relationship associated between Banks' Assets Quality and Profitability Indicators.

Also the coefficient of determination ($R^2$) values (0.177, 0.093 and 0.211) respectively shows the impact percentage of the Banks' Assets Quality Indicators (Predictors) over each Profitability Indicators

(Criterions), the Banks' Assets Quality Indicators can explain 17.7% of ROA and 9.3% of ROE and 21.1% of EPS.

**Table (3): Beta values – Profitability Indicators**

| Profitability Indicators (dependant variable) | Beta Values (β) (Independent Variables) | | |
|---|---|---|---|
| | **GLTA** | **PTA** | **NPLTA** |
| **ROA** | **-0.009** | **0.009** | **-0.025** |
| **ROE** | **0.022** | **-0.036** | **-0.032** |
| **EPS** | **-0.291** | **-0.067** | **-0.584** |

The values of Beta ($\beta$) shows how strongly each of the Banks' Assets Quality Variables influences each of the Profitability Indicators, we can notice from table (3) above that NPLTA has the strongest influence on ROA with a value -0.025 and a negative relationship, that means a change of one standard deviation in NPLTA will result in a change of 0.025 standard deviations in ROA. The portfolio to total assets predictor (PTA) has the highest influence on EPS with a value -0.067 and a negative relationship, and non-performing loans to gross loans (NPLTA) has the strongest influence on EPS with a value -0.584 and a negative relationship.

## Second – Assets Quality and Shareholders Value:

$PBV_{i},t = \alpha + \beta 1\ GLTAi,t + \beta 2\ PTAi,t + \beta 3\ NPLTAi,t + Ɛi,t$ …….. (19)

$BV_{i},t = \alpha + \beta 1\ GLTAi,t + \beta 2\ PTAi,t + \beta 3\ NPLTAi,t + Ɛi,t$ …….. (20)

**The result of multi linear regression analysis can be expressed by substituting the above equations as follow:**

$PBV_{i},t = 3.716 + -0.584 + -1.924 + -2.275 + 08967$ ……..…..(19)

$BV_{i},t = 4.908 + -4.295 + -3.382 + 0.118 + 1.5019$ ……..(20)

**Table (4): The Output of Multi Linear Regression Analysis for Banks' Assets Quality Indicators over each of the Shareholders' Value Indicators**

| | $R^2$ | Sig. |
|---|---|---|
| PTBV | 0.195 | 0.000 |
| BV | 0.180 | 0.000 |

The outputs above shows that the Banks' Assets Quality Indicators (Predictors) also have a significant efficacy on the Shareholders' Value variables (Criterions) PTBV and BV where the p-values (Sig. values) for each model where (0.000 and 0.000) and these values are less than 0.05, which indicates strong evidence against the null hypothesis, so we reject the null hypothesis. Therefore there is a significant meaningful relationship associated between Banks' Assets Quality and Shareholders' Value Indicators. Therefore we reject the null hypothesis.

The coefficient of determination ($R^2$) values (0.195 0.180) shows the impact percentage of the Banks' Assets Quality Indicators (Predictors) over each Shareholders' Value variables (Criterions), Banks' Assets Quality Indicators can explain 19.5% of PTBV and 18% of BV.

**Table (5): Beta values – Shareholders' Indicators**

| Shareholders' Value Variables (dependant variable) | Beta Values (β) (Independent Variables) | | |
|---|---|---|---|
| | **GLTA** | **PTA** | **NPLTA** |
| **PTBV** | **-0.584** | **-1.924** | **-2.275** |
| **BV** | **-4.295** | **-3.382** | **0.118** |

The Banks' Assets Quality Indicators influences each of the Shareholders' Value variables, table (5) above indicates that (NPLTA) has the strongest influence on PTBV with a value -2.275 and a negative relationship, the gross loans to total assets Predictor (GLTA) has the strongest influence on BV with a value -4.295 and a negative relationship.

## 8. CONCLUSIONS:

Banking institutions success will lead into comprehensive economic development, therefore bank`s management should be very cautious in selecting type of investment and the type of assets they should hold in order to enhance their financial position and be able to sustain the fierce competition confronted by other financial institutions.

In order to boost bank`s performance and ultimately its financial position, banks` management should emphasize on diversification of its investment composition as the statistical analysis results indicated that a single asset type has no impact neither on profitability nor shareholders indicators. The results indicates that the assets quality (type) collectively quotes a statistical proven impact on each of the bank`s performance indicators. Concentrating on loans portfolio and securities portfolio will help banks increase

their profitability and also increase owner's wealth which is considered the most essential goal for financial management.

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**Appendix 1: Market capitalization and Assets value – Banking Sector and Total Market**

| Year | All Sectors Market Capitalization (JD) | Banking Sector Market Capitalization (JD) | % of Banking Sector to the Market | All Sectors Total Assets | Banking Sector Total Assets | % of Banking Sector to the Market |
|---|---|---|---|---|---|---|
| **2001** | 4,575,148,734 | 2,532,056,781 | 55.34% | 28,564,720,894 | 23,159,047,843 | 81.08% |
| **2002** | 5,135,391,677 | 2,346,474,777 | 45.69% | 28,741,950,873 | 23,412,989,661 | 81.46% |
| **2003** | 7,844,197,499 | 4,155,184,546 | 52.97% | 30,478,956,209 | 24,794,053,148 | 81.35% |
| **2004** | 12,797,048,893 | 7,000,274,629 | 54.70% | 34,140,082,150 | 27,824,359,969 | 81.50% |
| **2005** | 24,206,078,561 | 16,633,405,557 | 68.72% | 38,663,804,940 | 30,681,845,191 | 79.36% |
| **2006** | 18,812,077,687 | 11,910,259,994 | 63.31% | 44,133,150,470 | 34,819,032,775 | 78.90% |
| **2007** | 24,118,520,115 | 15,570,637,242 | 64.56% | 50,793,248,214 | 40,045,732,144 | 78.84% |
| **2008** | 25,096,880,268 | 12,796,790,263 | 50.99% | 55,831,484,051 | 43,358,577,615 | 77.66% |
| **2009** | 22,263,761,440 | 10,573,867,349 | 47.49% | 58,674,034,143 | 46,142,487,538 | 78.64% |
| **2010** | 21,440,155,666 | 9,998,815,765 | 46.64% | 60,703,773,589 | 48,477,966,019 | 79.86% |
| **2011** | 19,043,993,570 | 8,517,769,888 | 44.73% | 63,104,371,661 | 50,516,950,642 | 80.05% |
| **2012** | 19,027,297,318 | 8,360,322,179 | 43.94% | 63,319,398,274 | 50,850,261,215 | 80.31% |
| **Average** | **17,030,045,952** | **9,199,654,914** | **53.26%** | **46,429,081,289** | **37,006,941,980** | **79.92%** |

*Source:- Amman Stock Exchange - ASE*

Appendix - 2:- Study Variables

| Year | Independent Variables | | | Dependant Variables | | | | |
|---|---|---|---|---|---|---|---|---|
| | % of Gross loans to Total Assets | % of Investment to Total Assets | % of Loans Provisions to Gross Loans | Return On Assets - ROA | Return On Equity - ROE | Earnings Per Share - EPS | Book Value Per Share (JD) | Price to Book Value (Times) |
| **2001** | 43.38% | 14.85% | 8.65% | 0.63% | 5.85% | 131.96% | 11.05 | 1.17 |
| **2002** | 42.54% | 16.00% | 11.36% | 0.32% | 9.71% | 121.51% | 12.58 | 0.87 |
| **2003** | 46.60% | 13.57% | 13.17% | 0.82% | 8.73% | 119.71% | 13.94 | 1.76 |
| **2004** | 44.70% | 16.09% | 11.14% | 1.54% | 14.28% | 87.55% | 8.62 | 2.82 |
| **2005** | 45.68% | 16.26% | 6.44% | 2.54% | 19.62% | 49.91% | 2.77 | 3.45 |
| **2006** | 43.71% | 16.62% | 11.64% | 1.81% | 13.51% | 28.78% | 2.32 | 2.05 |
| **2007** | 48.28% | 17.60% | 3.97% | 1.51% | 10.97% | 26.79% | 2.42 | 2.15 |
| **2008** | 51.58% | 20.35% | 3.52% | 1.58% | 11.20% | 24.46% | 2.17 | 1.57 |
| **2009** | 47.89% | 24.11% | 4.27% | 1.18% | 8.75% | 19.77% | 2.28 | 1.17 |
| **2010** | 48.24% | 25.98% | 4.92% | 1.31% | 9.42% | 21.37% | 2.36 | 1.24 |
| **2011** | 49.18% | 28.71% | 5.73% | 1.12% | 7.86% | 19.52% | 2.33 | 1.04 |
| **2012** | 49.31% | 26.91% | 5.15% | 1.28% | 8.79% | 21.39% | 2.37 | 0.99 |
| **Average** | **46.76%** | **19.75%** | **7.50%** | **1.30%** | **10.72%** | **56.06%** | **5.44** | **1.69** |

*Source:- By Researcher Based on Sample of the study Published Financial Data by ASE*