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LIQUIDITY, ASSET UTILIZATION, DEBT RATIO AND FIRM PERFORMANCE: EVIDENCE FROM EGYPT

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Abstract *How well firms handle liquidity and asset utilization determines their development, performance, and survival. Different liquidity and asset utilization methods impact firms' bottom lines. While most studies have studied the influence of liquidity and asset utilization on performance independently, this research tests both factors using debt ratio as a mediating variable. The investigation used secondary data from 50 Egyptian listed firms' annual reports from 2019-2021. Data were analyzed using descriptive statistics, correlation, and regression. The study indicated that using tangible assets and current assets (liquidity) affected corporate performance. The debt ratio does not affect asset utilization, liquidity, and company performance. This study may assist management and financial experts in examining the company's growth characteristics, liquidity and asset utilization, business risk, and financial performance to anticipate its future worth.*

Keywords:-

Liquidity, Asset utilization, Debt ratio, Firm performance, Quick ratio, Total asset turnover, and Return on equity (ROE).

JEL Codes: M41

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41 **Introduction:**

42
43 Liquidity refers to the availability of cash or its equivalents in an
44 organization to meet its operating needs and financial obligations in the
45 short term. Also, besides the liquidity organization need to utilize their
46 usage for assets in a good way. As asset utilization assesses how much
47 each asset can generate and how much it produces. Assets dis-
48 utilization, on the other hand, refers to income that is lost because of the
49 inefficient use of assets as a percentage of total investment. Patin (2021)
50 noted that the disutilization of assets may result in higher agency costs
51 since managers do not operate in the best interests of their employers.
52 Moreover, Mustafa et al. (2019), stated that good asset utilization may
53 increase the firm performance which that will lead to an increase in the
54 profit of the organization by increasing the number of investors. Which
55 will lead to a decrease in the debts of the organization as it will have
56 more liquidity to pay its obligation. Moreover, organizations need to
57 decrease their debts as it may lead to an increase in liquidity but decrease
58 the firm performance and asset utilization. The debt level of companies
59 can be measured through the debt ratio. Debt ratio is a term used to
60 measure the amount of an organization's debt. So, to discover the
61 relationship between liquidity, asset utilization, debt ratio and firm
62 performance the research aims to understand the impact of liquidity and
63 asset utilization on firm performance considering debt ratio as a
64 mediating variable.

65 On one hand, bad asset utilization may affect the liquidity of the
66 organizations so which will affect the debt ratio which that may affect
67 the firm performance. On the other hand, bad asset utilization may lead
68 to a decrease in the liquidity of the organization which will lead to an
69 increase in the debt ratio and the increase in debt ratio will decrease the
70 firm performance and make the organization face financial distress or
71 declare bankruptcy.

72 Liquidity demonstrates a firm's ability to repay its short-term
73 liabilities without taking a loan also, Liquid assets are not limited to
74 cash, and they could be in the form of treasury bills, notes, and securities
75 including stocks and bonds, in addition to any other asset that could be
76 sold quickly without affecting its market value. As stated by Mustafa et
77 al. (2019), liquidity ratios are used as an indicator to show the
78 conversion of assets into cash. In this study, we measure the effect of
79 liquidity by calculating the current ratio of the selected sample.
80 Additionally, Asset utilization means the firm ability to maximize the
81 use, manage, and leverages its assets to produce ultimate revenue.
82

83 By practising assets utilization, a firm is efficient with its assets.
84 On the other side of a coin, when a firm doesn't make the maximum
85 benefits form assets, it's considered to have poor asset management. It's
86 highly preferred that assets utilization rate increases which may increase
87 the firm performance. Moreover, debt ratio is calculated by dividing
88 total liabilities of firm over total asset. Also, it is the ratio of total debt
89 to total asset which it shows the amount of asset that is obtained by using
90 financed debts. Additionally, if the ratio is greater than 1 then that means
91 that the organization have liabilities more than assets. Furthermore,
92 when the ratio increases the risk of organization also increase. Perhaps,
93 this is because the amount of liability is more than the asset which means
94 the organization interest rate will increase by a huge way and it may face
95 financial distress. Furthermore, Firm performance is defined as how the
96 organization will use its limited resources and opportunities to achieve
97 its goals without increasing its cost. Furthermore, in the beginning of
98 twenty first century the concept of firm performance began to focus on
99 the ability and capability of the companies to use its available resource
100 s in an efficient way in order to achieve its goals and objectives. Also,
101 the firm performance measured increased by a huge way, but research
102 focus on return on asset (ROA), return on equity (ROE) and net profit
103 margin most of the time (Taouab & Issor, 2019).

104 This study contributes to the literature in at least two ways about
105 the relationship between company liquidity, asset utilization and debt
106 ratio. First, it concentrates on Egyptian companies, about which only a
107 few studies have been undertaken recently. This study verifies the
108 conclusions of earlier researchers by examining the impact of the
109 moderating role of debt ratio in the relationship between corporate
110 liquidity and firm performance across the sample firms.

113 **Literature review**

115 **Liquidity:**

116
117 Financial analysis is used to assess a company's financial
118 standing. Financial ratios are one of the primary instruments of financial
119 analysis; they are valuable indicators of a company's performance and
120 financial status. Several studies (Chiaramonte and Casu, 2016)
121 concurred those financial measures, particularly liquidity ratios, may be
122 used as an indication of a business's financial situation and to anticipate
123 any potential corporate failures and ensuing bankruptcy. Analysts
124 frequently use liquidity ratios to evaluate a company's financial health.

125 And whether a company is able to continue operating as a going concern.
126 And to act as an indicator of probable financial trouble. This increased
127 emphasis on the company's liquidity status is due to its relevance to all
128 parties involved. Each has a stake in the liquidity situation of a
129 corporation. In this context, Kim-soon et al. (2013) and Delen et al.
130 (2013) found a significant positive link between liquidity ratios and the
131 financial health of businesses. The stronger the firm's financial position,
132 the higher the liquidity ratio. Which indicates the ability of liquidity
133 measurements to predict a company's demise.

134 Liquidity Current, fast, and cash ratios are typically used to
135 evaluate a company's short-term financial status or solvency. This
136 collection of financial liquidity measures that are routinely used to gauge
137 financial performance El Deeb & Ramadan (2020) has the capacity to
138 forecast bankruptcy, whether employed individually or in various ratio
139 combinations.

140 In general, the higher the ratio's value, the higher the company's
141 short-term loan coverage margin of safety. If the current ratio is more
142 than or equal to one, a corporation is said to have sufficient liquidity
143 (Kim-soon et al.,2013). This demonstrates that current assets should be
144 enough to cover short-term liabilities, and a current ratio below one may
145 indicate that the organization is experiencing liquidity issues.

146 The quick ratio is a far superior indicator of liquidity. This is due
147 to the fact that current assets such as inventory and prepaid costs, which
148 are more difficult to convert to cash, are excluded from the ratio
149 calculation. This indicates that the greater the quick ratio, the more
150 liquid the company is, allowing it to determine or predict any business
151 slump (El Deeb & Ramadan, 2020).

152 The liquidity ratio demonstrates the company's capacity to pay
153 down its short-term loans as they mature. As its value increases, so does
154 the company's ability to pay its short-term obligations. Otom, (2014)
155 mentioned that a lower liquidity ratio is indicative of a company's
156 financial difficulty. Previous studies concurred that liquidity ratios are
157 one of the most significant categories used to identify firms in financial
158 distress Alifiah (2014); Otom (2014) as they are widely used by
159 investors to measure the risk of their investment Kim-Soon et al. (2013)
160 by screening financially sound companies listed on the stock market.
161 The ratios of liquidity are sometimes known as ratios of short-term
162 solvency.

163 Maskami et al. (2022) examined the impact of liquidity and
164 solvency on profitability of organization that listed on the Indonesia
165 stock exchange. Moreover, the researchers have chosen a sample of
166 plantation subsector from period 2017 to 2020. Also, they have chosen

167 their sample using purposive sampling method. Furthermore, they
168 measured the liquidity using current ratio. Also, they measured the
169 solvency using debt ratio. Also, the researchers used multiple regression
170 analysis to know the relation between the variables. Which they found
171 that there is a huge positive relation between liquidity and profitability
172 of organizations. Also, there is a positive relation between solvency and
173 profitability of organizations.

174
175 In addition, to return on assets as an intervening variable,
176 Suhendry et al. (2021) examined the impact of the debt-to-equity ratio
177 (DER) and the current ratio (CR) on firm value. The researchers applied
178 their findings to industrial consumer products businesses listed on the
179 Indonesian stock exchange. The research methodology employed is
180 quantitative. Using the approach of purposive sampling, they selected
181 20 companies as their sample between 2015 and 2018. Lastly, they
182 discovered that both DER and CR have a considerable beneficial impact
183 on ROA but have no impact on firm value. However, ROA has a
184 favourable effect on the value of a company.

185
186 In addition, other researchers, such as Pandansari & Khasanah
187 (2020), analyzed the influence of liquidity indicators, profitability ratios,
188 leverage ratios, and operational cash flow in predicting financial crisis
189 in firms. The liquidity ratio, profitability ratio, leverage ratio, and
190 operational cash flow are employed as independent factors, whereas
191 financial hardship is used as a dependent variable. In addition, the
192 researcher selected 105 industrial businesses listed on the Indonesia
193 Stock Exchange as a sample (2015-2018). In this study, data were
194 analysed via logistic regression. In addition, the analysis revealed that
195 the liquidity and operational cash flow ratios had little influence on
196 predicting financial hardship, however, the profitability and leverage
197 ratios had a substantial effect.

198 Gagnier (2022) investigated the effect of debt restructuring
199 using debt to equity swap policy on the financial performance. The
200 researchers used multiple regression model to analyze the data. Their
201 sample was PT XYZ Company; they tested it during the period from
202 2012 till 2018. Eventually, they found that debt to equity swap has a
203 significant positive effect on profit margins, total assets turnover,
204 inventory turnover, return on asset, and profit margins. However, it has
205 no significant effect on current ratio and quick ratio.

206
207 Al-Homaidi et al. (2020), examined the influence of Indian listed
208 businesses' liquidity on their market value. The purpose of this study is

209 to present an empirical examination of the factors affecting the liquidity
210 of Indian listed firms. The ratio of liquid assets to total assets quantifies
211 the liquidity of Indian companies. Moreover, a total of 2154 companies
212 were picked at random from among India's 5129 publicly traded
213 organizations. They use (linear regression with pooling, fixed, and
214 random) effect models on a sample of Indian listed enterprises from
215 2010 to 2016. The researchers discovered that the ratio of return on
216 equity is inversely correlated with liquidity.

217
218 The purpose of this study was to determine the significance of
219 liquidity and solvency risk variables on variances in efficiency
220 indicators of domestic and commercial banks in the United States. The
221 researcher utilized the stochastic cost model with genuine random effect
222 to estimate the relevance of solvency and liquidity risk components. He
223 employed the exponential stochastic cost function and included other
224 variables, such as bank size, crisis as an indicator for financial crises,
225 and the Dodd-Frank Act and Basel II pact as regulatory dummies. From
226 2005 to 2017, he examined the financial institutions. In conclusion, the
227 researcher discovered that the solvency and liquidity risk variables had
228 a favourable impact on the variance of cost inefficiency metrics.
229 Additionally, it has a detrimental impact on cost-effectiveness
230 measurements (Sakouvogui ,2020).

231
232 According to Hongli, et al. (2019), they investigated that
233 liquidity and financial leverage have a great impact on the firm's overall
234 performance. Firm performance is measured by ROA and ROE for
235 indicating the extent of increasing the firm's overall profitability as well
236 as using two methods such as fixed effect model and random effect
237 model for modelling. They used "Ghana Stock Exchange" as their
238 sample from six different sectors from the year 2007 to 2015. Finally;
239 they found that liquidity, as determined by current assets to current
240 liabilities, has a direct positive effect on return on equity.

241 242 **Asset utilization:**

243
244 According to Adebayo (2022) asset utilization assesses the
245 difference between what an asset can generate and what it actually
246 produces. In contrast, asset underutilization signifies revenue losses
247 related to the inefficient exploitation of assets. Fleming et al. (2005)
248 noted that asset underutilization may raise agency costs if managers do
249 not operate in the owners' best interests.

250 A study on Investment in fixed assets and corporate profitability
251 by (Okwo, 2012). The association was shown to be positive, however
252 the conclusion was not statistically significant. Xu and Xu (2013)
253 conducted a study on the best allocation of assets structure and company
254 performance, and their findings demonstrated a statistically significant
255 correlation between assets Structure and business success. In addition,
256 Akinleye & Dadebo (2019); Ogunode & Adegbe (2020) and Waseem
257 & Qamar (2021) found that asset utilization has a substantial impact on
258 the financial success of a company.

259
260 The study by Chauhan, (2021) examined probable
261 misallocations of working capital among academics, as well as the link
262 between enterprises' working capital and productivity as shown by their
263 valuations. The researcher used a multivariate approach to derive
264 conclusions from the minor effect of working capital and its aspects on
265 company value while accounting for asset utilization. He also stressed
266 out on the importance of asset utilization for organization's profitability
267 and increasing profit. Also, he used a sample of 25 firms from the year
268 2012 to 2019. found out that despite of accounting for asset utilization,
269 the impact of working capital on firm's value is weak and poor. This
270 research had many limitations so it was suggested that managers should
271 determine working capital allocations in relation to a firm's other assets
272 rather than its sales.

273
274 According to Junaid & ali (2020), the purpose of this study is to
275 understand the relation between asset utilization and profitability of
276 textile industry in Pakistan. The sample of 10% of population which
277 consist of 40 firms from Pakistan. They taste date using questionnaire
278 by random sampling technique. Moreover, fixed asset turnover ratio and
279 financing costs are used in order to measure the asset utilization.
280 Moreover, they used the sales of organization in order to measure the
281 profitability. The researcher used central tendency test for the arithmetic
282 mean in order to understand the relation between asset utilization and
283 profitability of textile organizations. They found that there is significant
284 positive impact between financing cost and industry profitability.
285 However, there is a negative relation between fixed asset turnover and
286 industry profitability.

287
288 Another study investigates the relationship between liquidity and
289 cash turnover, accounts receivable turnover, and inventory turnover. In
290 addition, the researchers selected a population of real estate, property,
291 and construction companies. In addition, they employed the technique

292 of purposive sampling to choose their samples. The sample consisted of
293 companies listed on the Indonesian stock market between 2013 and
294 2018. In addition, a multiple regression model was utilised to examine
295 the relationship between the variables. They discovered a negative
296 relationship between cash turnover and liquidity, as assessed by the cash
297 ratio. While there is a favourable correlation between accounts
298 receivable turnover and an organization's liquidity. Furthermore,
299 inventory turnover and liquidity are positively correlated (Sarpingah,
300 2020).

301
302 According to Juliana (2020), the researcher investigated the
303 influence of ownership structure on organizations' asset use. He
304 employed econometric techniques, such as unit root tests and ordinary
305 least square (OLS), to examine the influence of independent factors on
306 the dependent variable. The sample was based on secondary data from
307 six companies that were collected between 2014 and 2019. According
308 to the data, ordinary share, retained profits, the short-term debt ratio, and
309 the long-term debt ratio have a substantial positive influence on return
310 on assets, therefore the ownership structure has a favorable impact on
311 asset utilisation for enterprises during that era.

312
313 According to Akinleye and Dadebo, (2019). The aim of this
314 study was to investigate the impact of asset utilization the performance
315 of a sample of Nigerian manufacturing firms. To examine the
316 performance of the selected manufacturing companies, this study
317 applied correlation and regression analysis. Secondary data was
318 obtained from the annual reports and accounts of 10 selected publicly
319 traded companies throughout a five-year period ranging from 2012 to
320 2016. Moreover, the study showed that asset utilization has a
321 significantly positive impact on the performance of Nigerian
322 manufacturing firms.

323
324 This study examined the influence of corporate financial
325 performance on corporate growth and asset usage on corporate market
326 value, as defined by Rahayu (2019). This research is an explanation that
327 utilises secondary data to measure many factors. In addition to the
328 structural equation model, he analysed reports using purposive sampling
329 and saturation sampling. The sample consisted of 348 Indonesian
330 companies operating between 2011 and 2016. The results indicate that
331 business expansion positively influences market value. It has been
332 demonstrated that asset utilization has a direct positive influence on

333 financial success. Finally, financial success favorably increases the
334 market value of a company.

335

336 **Firm performance:**

337

338 According to Agbata et al., (2021), the purpose of this research
339 is to examine the influence of financial ratios on the performance of
340 listed breweries in Nigeria. The sample for this study consists of thirteen
341 brewers listed on the Nigerian stock market from 2010 to 2018.
342 Moreover, the financial ratio calculated using dividend per share and
343 ROE In addition, they evaluated business success based on market
344 valuation. This study relies on secondary data acquired from the selected
345 brewers' financial statements and annual reports. In addition, the
346 pertinent data were examined statistically utilising correlation
347 coefficient, Pearson correlation, and regression analysis. According to
348 the primary findings of this study, there is a negative relationship
349 between current ratio and company performance. There is also a
350 favorable correlation between financial ratios and the success of
351 Nigerian breweries.

352

353 According to Susanti et al., the leverage ratio enhances a
354 company's success. The scientists also identified a positive correlation
355 between leverage and business performance, which might turn negative
356 if the ideal amount of leverage is surpassed. Therefore, the move from
357 positive to negative suggests that debt has a dual effect on a company's
358 performance. Using the concept of tradeoffs and the cost principle of
359 agencies, this study investigated the relationship between leverage and
360 corporate performance in Malaysia. Between 2005 and 2016, their
361 sample comprised of 528 non-financial firms registered on the Bursa
362 Malaysia Stock Exchange.

363

364 Mennawi (2020) evaluated the effect of liquidity, credit, and
365 financial leverage risks on the financial performance of Islamic banks in
366 Sudan. The study was mostly based on secondary data sources, and the
367 researcher employed panel datasets from 2008 to 2018. Researchers
368 sampled 13 Islamic banks in Sudan out of a total population of 37
369 Islamic institutions. He utilised quantitative methodology with a
370 longitudinal study design and a balanced panel data estimate. Credit risk
371 and financial leverage have a considerable beneficial impact on the
372 financial performance of Islamic banks in Sudan, however liquidity risk
373 is minor. Although the liquidity risks associated with the ratio of liquid
374 assets to total assets have a substantial favourable impact on financial

375 performance. This study had some limitations, including a small sample
376 size (13 institutions out of a total population of 37 banks), the use of
377 historical data, and factors that did not cover all forms of hazards that
378 may harm Islamic banks.

379
380 According to Fitrianiingsih and Huda (2021), the purpose of this
381 study is to evaluate and analyse the effectiveness of the current ratio, the
382 quick ratio, and the cash ratio in measuring financial success. In
383 addition, the type of research employed is descriptive research using
384 quantitative methodologies, and the population in this study consists of
385 financial report data for five years (2015-2019) and a sample size of five
386 years. Finally, they discovered a favourable correlation between the cash
387 ratio and the success of financial firms.

388
389 According to Kengatharan (2019), this study investigated the
390 link between intellectual capital, company performance, and
391 productivity. Using a self-reported questionnaire, 232 business
392 managers from varied industries, including banking, insurance,
393 telecommunications, and hotels, provided information. The article
394 revealed a significant correlation between intellectual capital and
395 productivity. In addition, the studies revealed a correlation between
396 productivity and firm performance. It was also emphasized that there is
397 a connection between specific components of intellectual capital and
398 productivity-based company success.

399
400 According to Fajaria and Isnalita (2018), the purpose of this
401 study is to quantify the impact of profitability, liquidity, leverage, and
402 business growth on the firm's value using debt policy as a moderator.
403 The research analysed 146 companies that were listed on the Indonesian
404 stock exchange between 2014 and 2016. In addition, the sample consists
405 of 108 organisations in 2013, 160 organisations in 2014, 94
406 organisations in 2015 and 2016, respectively. The sample was obtained
407 with the assistance of judgement sample technotes. In addition, Tobins
408 q and market value equity are employed to determine the firm's worth.
409 In addition, profitability was assessed by return on assets (ROA),
410 liquidity by current ratio, leverage by debt-to-equity ratio, and dividend
411 policy by dividend policy ratio. The study discovered a positive
412 correlation between profitability and business valuation. However,
413 leverage and liquidity had a detrimental impact on the value of the
414 company.

415

416 Waswa et al. (2018) evaluated the effect of liquidity
417 management on the performance of businesses. Using a cross-sectional
418 retrospective study approach, they analysed the effect of liquidity on the
419 financial performance of the Kenyan sugar sector. Using a random effect
420 regression model, the researchers examined the association between
421 liquidity management and company performance. They selected five
422 Kenyan sugar companies as their sample for a period of twelve years,
423 from 2005 to 2016. The independent variable (liquidity) is assessed by
424 financing liquidity (current liability coverage ratio), whereas the
425 dependent variable (return on assets ratio) is measured by the current
426 liability coverage ratio. They discovered that liquidity, the current
427 liability coverage ratio, and company performance had a negative
428 correlation.
429

430 **Hypotheses development**

431 **Liquidity and performance:**

432 According to Dimiyati et al. (2021), there is a negative relation
433 between quick ratio and firm performance. While there is a strong
434 positive relation between current ratio and firm performance. Also,
435 return on asset have positive relation with firm performance. While
436 return on equity have negative relation on the firm performance. The
437 study examined the effect of profitability and liquidity ratio on financial
438 performance at UNILEVER in Indonesia. Moreover, they measured the
439 quick ratio, current ratio, return on equity and return on asset of the
440 financial performance at UNILEVER Indonesia by collecting this data
441 as a secondary data from the financial statements of the firm. Also, they
442 processed the data using multiple liner regression analysis method in
443 order to understand the relationship between the variables.
444

445 Furthermore, Mustafa et al. (2019), found that there is a negative
446 relationship between current ratio and profitability of automobile
447 companies in Pakistan, while there is a positive relationship between
448 profitability and quick ratio. The study aimed to investigate the impact
449 of liquidity on profitability of automobile companies listed in Pakistan
450 stock market. They used random effect model and fixed effect model for
451 the sake of empirical investigation, also the applied Hausman test to
452 choose the appropriate model among random and fixed effect model.
453 They used 12 automobile companies listed in Pakistan stock market as
454 their sample. They used panel data of a period of 5 years from 2013 till
455 2017.
456
457

458 Finally, they agreeing to Adusei (2022), this research aimed to
459 measure the financial performance of profitability and liquidity of
460 financial firms. AS, profitability ratio reflects the organization ability to
461 generate profit. While the liquidity ratio used to measure the
462 organization ability to pay their debts on time and cover certain
463 liabilities. And working capital considered as the capital needed by the
464 company for operation. Moreover, the researchers used quantitative
465 approach and secondary data in order to choose their sample. As, they
466 choose to focus on construction, developing and trading companies.
467 Furthermore, they measured the liquidity ratio by calculating current
468 ration, quick ratio, and cash ratio in addition to that, they measure the
469 profitability ratio by calculating the gross profit margin, net profit
470 margin, and rerun on asset and return on equity. Also, the working
471 capital were measured using the working investment method. The
472 research depends on purposive sample technique as they choose
473 construction companies based on the highest number of assets in the
474 Indonesian stock exchange. While the trading and developing
475 companies selected based on the largest revenue from sales and started
476 to be arranged according to the largest number of assets the researchers
477 found that developer companies have better liquidity ratio that
478 construction and trading companies. After calculating working capital,
479 it shows that construction companies need less working capital than
480 other companies.

481
482 Other research examined the link between company liquidity and
483 profitability. The liquidity ratio, investment ratio, and capital ratio were
484 used to assess the firm's liquidity, while the return on assets (ROA) and
485 net profit margin were used to measure the firm's profitability. This
486 research uses inferential statistics to quantitatively define the important
487 elements of a data set, while correlation and linear regression analysis
488 were employed to examine the data. They utilised a sample of fourteen
489 Nepalese commercial banks between 2008 and 2017. The results
490 demonstrated a positive correlation between liquidity ratio and ROA and
491 a negative correlation between capital ratio and investment ratio.
492 Moreover, the link between net profit margin and capital ratio is
493 negative. In conclusion, it is established that liquidity is not a significant
494 indication of a company's profitability (Bhatt & Verghese, 2018).

495
496 According to Ehiedu (2014), this study aims to determine the
497 relationship between the liquidity and profitability. Also, it measures the
498 relationship between the quick ratio and profitability. The sample
499 consist of listed but public companies that produce industrial/ domestic

500 product they used sample current ratio and profitability there is also a
501 technique called “nonprobability” using four selected companies they
502 measured liquidity ratio by current ratio and quick ratio also they
503 measured the firm performance using ROA and ROE ratios this research
504 used qualitative research design also they depend on using They used
505 correlation analysis. Secondary data in the firm of account and annual
506 reports. The main result of this research there is a significant and positive
507 relationship between current ratio and profitability. There is no
508 correlation between quick ratio and profitability.

509 Previous research revealed a significant association between a
510 firm’s liquidity and performance. There is a considerable association
511 between a firm's liquidity levels and the financial performance of listed
512 companies. This conclusion necessitates more investigation to test this
513 association on Egyptian Stock Exchange-listed enterprises, particularly
514 in the context of the Egyptian capital market's high level of uncertainty.
515 Following is how the research hypothesis may be derived.

516
517 **H1: There is a significant association between liquidity and**
518 **firm performance**

519
520 **Relation between Asset utilization and firm**
521 **performance:**

522
523 According to Zaman (2021), the purpose of the study was to
524 determine the relationship between the current ratio, total asset turnover,
525 and debt-to-total asset turnover ratio and the return on assets. In addition,
526 the researchers selected a sample of mining companies listed on the
527 Indonesian stock exchange between 2008 and 2017. In addition, they
528 gathered secondary data from the financial statements of these
529 organizations. In addition, panel data and EViews software were applied
530 to the financial statement processing. In addition, regression analysis
531 and a feasibility test were utilized to examine the relationship between
532 the variables. In conclusion, they discovered a favorable relationship
533 between the independent and dependent variables.

534
535 This research aims to understand the relation between asset
536 utilization and company performance. The researchers studied the
537 relation by taking a sample of 130 organization from different sector in
538 Indonesia. Also, they used quantitative method in order to study the
539 relation between the variables which they collected secondary data that
540 consist of different financial statements and ratios. In order to know the
541 relation between asset utilization and organization performance. They

542 measured asset utilization by asset utilization ratio and measured
543 organization performance by Tobins Q, return on asset and return on
544 invested capital. Also, they used three stage least square technique in the
545 simultaneous equation model. They found that there is a huge positive
546 relation between asset utilization and organization performance
547 (Herdinata, 2019).

548 The goal of this study, according to Akinleye and Dadebo
549 (2019), was to investigate the effect of asset utilisation on the
550 performance of a sample of Nigerian manufacturing firms. They
551 analysed the collected data using descriptive statistics, correlation, and
552 regression analysis. From 2012 to 2016, secondary data were collected
553 from the annual reports and financial statements of ten publicly listed
554 corporations. Results demonstrated that asset turnover and current asset
555 ratios positively impact return on assets.

556 According to Utami (2017), the purpose of this study is to
557 investigate the effect of current ratio, debt asset ratio, total asset
558 turnover, and return on asset on price earnings ratio on the profitability
559 of businesses. In addition, their sample was comprised of firms that were
560 included in the LQ45 index from 2013 to 2016. In addition, they selected
561 the sample using the approach of purposive sampling. In addition, the
562 researchers utilised multiple regression analysis to comprehend the
563 relationship between the variables. Lastly, they discovered that the
564 current ratio, debt asset ratio, total asset turnover, return and price
565 earnings ratio, and profitability are all positively correlated.

566
567 Asset utilization is the ratio of a company's total revenues to its
568 total assets. Past research has demonstrated that asset usage positively
569 affects the performance of a company. Companies with a high asset
570 utilization ratio prefer to enhance their present performance to satisfy
571 future market demand. This study contends that successful asset usage
572 increases firm performance, but ineffective asset utilization decreases
573 firm value. Hence, the second hypothesis is presented as follows:

574
575 **H2. There is a significant association between asset**
576 **utilization and firm performance**

577
578 **Debt ratio:**

579 According to LE & phan (2017), the research aims to understand
580 the impact of leverage on quick ratio of organizations in Nigeria.
581 Moreover, the researchers picked 6 listed Nigerian organization from
582 the period 2003 to 2020 as their sample. Also, they collected secondary
583 data from annual accounts and reports of the organization and analyzed

584 it by using ordinary least square regression analysis and person
585 collection. The researchers found that there is a huge negative effect
586 between leverage and quick ratio in Nigerian organizations that are
587 listed in the Nigerian stock exchange.
588

589 According to Ibrahim & Isiaka (2020), the research aims to
590 understand the relation between financial leverage and firm value. Also,
591 they used a sample of 18 organization firm Nigerian stock exchange
592 from 2014 to 2018. Additionally, they used long term debt in order to
593 measure the financial leverage and, used Tobins Q in order to measure
594 firm value. Also, there are 4 control variables which consists of age of
595 firm, size of firm and return on asset. They used regression model by
596 using fixed effect panel model, random effect panel and pooled ordinary
597 least squares technique in order to understand the relation between
598 financial leverage and firm value. The researchers found that there is a
599 huge negative effect between firm value and financial leverage using
600 regression model.
601

602 According to Forte & Tavares (2019), this study examined the
603 connection between debt and company performance by focusing on the
604 role of institutional structure and macroeconomics in gauging
605 performance. They assessed performance using return on assets (ROA)
606 and return on equity (ROE) (ROE). In addition, they concentrated on the
607 Legal Structure and Security of Property Rights index and the index of
608 credit market regulation. From 2008 to 2013, they utilised a huge sample
609 of 48,840 manufacturing enterprises from nine nations. The study
610 demonstrated a favourable correlation between debt and business
611 performance; but, if the debt is long-term, the correlation might become
612 negative. Consequently, the degree of debt shows the nature of the
613 relationship.
614

615 Multiple studies have examined the link between leverage and
616 business performance, demonstrating the influence of a third variable,
617 the firm's size. Total debt to asset ratio, long-term debt to asset ratio, and
618 short-term debt to asset ratio were used to assess leverage, while return
619 on asset and return on equity market performance measure (Tobin's Q)
620 was used to analyze company performance. In addition, they utilized the
621 firm's size, tax return, and age as additional considerations. Using
622 descriptive statistics on a sample of 101 listed firms in Nigeria from
623 2003 to 2007, it was discovered that the negative impact of leverage on
624 company performance is most pronounced and significant for small- to
625 medium-sized enterprises, and that evidence of a negative effect

626 declines as a firm improves, eventually disappearing when firm size
627 exceeds its estimated threshold. Consequently, depending on the size of
628 the business, there exists a positive correlation between leverage and
629 firm performance (Ibhagui & Olokoyo, 2018; Adnan & Kamran, 2019).

630
631 The objective of Vieira's (2017) research is to comprehend the
632 connection between family business debt policy and performance.
633 Moreover, it also focusses on the possibility of asymmetric debt policy
634 and its effect on performance between the period of stability and
635 economic advert. To determine the nature of this link, a panel data
636 regression model was used to a sample of chosen listed businesses from
637 1999 to 2014 that were deemed to be protégés. The debt ratio policy was
638 evaluated using the short-term debt ratio, the long-term debt ratio, and
639 the overall debt ratio. In addition, the performance of the company
640 family was examined by ROA, ROE, and market-to-book ratio. In
641 conclusion, they discovered a negative link between debt policy and
642 company performance. Moreover, the primary weakness of the research
643 is the sample itself, as the bulk of the sample utilized is comprised of
644 small-sized organizations.

645
646 A company with a greater Debt ratio will be subject to
647 heightened creditor and financial oversight. To be able to pay debt
648 instalments and accrued interest, the firm must be managed profitably.
649 In other words, organizations with high debt ratio are highly motivated
650 and diligent, which contribute to the enhancement of corporate
651 performance and value. Therefore, the third and fourth hypotheses are
652 presented as follows:

653
654 **H3. Debt ratio has a significant mediating impact on the**
655 **association between liquidity and firm performance.**

656
657 **H4. Debt ratio has a significant mediating impact on the**
658 **association between asset utilization and firm performance.**

659 660 **Empirical study:**

661 The aim of this section is to empirically examine the
662 impact of liquidity and asset utilization on firm performance considering
663 debt ratio as a mediating variable. The chapter begin with understanding
664 the research method including the data collection, sample and table of
665 measurements and variables. Finally, it shows the statistical analysis of
666 the hypotheses.

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Research method:

The study used secondary data collected from organizations financial statements. To test the research hypotheses descriptive analysis; Pearson’s correlation and multiple regression analysis have been used through the Statistical Package for Social Science (SPSS) Program to test the relation between liquidity, asset utilization and debt ratio on firm performance.

Sample and data collection:

The sample consists of 50 Egyptian organization that are listed in the EGX100 from period (2019-2021). Moreover, the total number of observations are 150 which collected so we can understand the relationship between liquidity, asset utilization, debt ratio and firm performance. Also, all the annual reports were downloaded from the official websites of the organization and Mubashir.

Variables measurement:

Table (1) variables and measurements

variables	Measurements	
Independent variable		
Asset utilization	Total asset turnover	$\frac{\text{net sales}}{\text{average total saels}}$
Liquidity	Quick ratio	$= \frac{\text{current assets} - \text{inventory}}{\text{current liability}}$
Mediating variable		
Debt ratio	Debt ratio	$= \frac{\text{current liabilities}}{\text{total assets}}$
Dependent variable		
Firm performance	Return on equity	$= \frac{\text{net income}}{\text{total equity}}$

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As stated in table (1) independent variable is asset utilization which is measured by total asset turnover and liquidity is measured by quick ratio. Moreover, the research mediating variable is debt ratio which can be measured by current liabilities over total asset. Finally, the dependent variable is firm performance which is measured by FIRM PERFORMANCE which can be calculated net income total equity.

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Descriptive analysis:

With the use of inference statistics, the descriptive analysis may be used to describe data. It offers a summary of the sample information. Therefore, it assists us in understanding what our data means by displaying the minimum, maximum, mean, and standard deviation of the sample data set.

Table (2) Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Liquidity	50	.1521	16.4501	1.875877	2.6937227
Asset utilization	150	.0028	5.7818	.507050	.7109716
Debt ratio	150	.0138	9.3911	.599492	1.1922953
Firm performance	150	-.3462	5.6915	.114594	.4903372
Valid N (listwise)	150				

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The mean of the Liquidity of the observations is 1.875877 which means that the average Liquidity among the observations is 1.875877. Moreover, if organization have a Liquidity less than 1 then it may not be able to fully pay its short-term obligations. So, since the mean of Liquidity is 1.875877 then most of the organization can pay its short-term obligation and does not face financial distress.

Also, the mean of total asset turns over which means the average number of total assets turnover among the observations is .507050 and Asset utilization is used to test how efficient the organization is using its asset to generate revenue. Moreover, the average debt ratio (mean) is .599492. It is used to measure how much of the assets of organization are bought using debts so, that means most of the organization in the sample had bought more than have of its assets using debts. Finally, the mean of return on equity is .114594. Moreover, high firm performance means that the organization can increase its profit generation without needing much capital.

Furthermore, the standard deviation of Liquidity is 2.6937227 and this is considered as a small variation since the minimum number of Liquidity is .1521 and the maximum number is 16.4501. Moreover, the

728 standard deviation of Asset utilization is .7109716 which it also
729 considered as a small variance since the minimum number of Asset
730 utilization is .0028 and the maximum number is 5.7818. Also, the
731 standard deviation of debt ratio is 1.1922953 which it considered as a
732 small variance since the minimum of debt ratio is .0138 and the
733 maximum is 9.3911. Finally, the standard deviation of return on equity
734 is .4903372 which it considered as a moderate variance as the minimum
735 number of FIRM PERFORMANCE is -.3462 and the maximum number
736 is 5.6915.

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738 **Pearson's Correlation:**

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740 Pearson Correlation is used to examine or test the relationship
741 and direction between variables. As shown in Table (3), the correlation
742 between Liquidity and Asset utilization is -0.133, indicating that there is
743 no association between these variables. While the correlation between
744 Liquidity and Debt Ratio is -0.249, indicating a significant association
745 between the two variables. Also, when the Liquidity increases, the debt
746 ratio will fall, since when the organization's liquidity increases, it will
747 be able to pay more of its loans, resulting in a decrease in the debt ratio.
748 The association between Liquidity and Firm performance is -0.36,
749 which is statistically significant.

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751 In addition, the correlation between Asset utilization and Firm
752 performance is 0.25, indicating a significant association. In addition, the
753 connection between Firm performance and Debt Ratio is -0.027, which
754 is not statistically significant. Lastly, the correlation between Debt Ratio
755 and Asset utilization is 0.439, indicating a positive and statistically
756 significant association. Thus, when asset utilization increases, the debt
757 ratio would likewise rise. Perhaps this is due to the fact that when a
758 company effectively utilizes its assets, the number of operations will
759 expand, necessitating the borrowing of additional loans, hence
760 increasing the debt-to-assets ratio.

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**Testing Hypotheses:
Hypothesis one:**

Table (4) Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	.517	.048		10.820	.000
Liquidity	-.036	.015	-.249	-3.131	.002
R square					0.32

a. Dependent Variable: Firm performance

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The results from table (4) indicate that liquidity has a negative impact on the performance of the firm. These results are in consistent with the results reached by (Gill & Mathur, 2011; Yameen et al., 2019; Arif & Batool, 2022). The justification for these results that corporate liquidity increases the profitability of firms. This can occur when firms maintain an ideal degree of company liquidity (e.g., holding liquid assets such as cash and cash equivalents). On the other hand, greater liquidity may have a detrimental effect on the firm performance.

Table (3) Pearson Correlations for the study variables

	Liquidity	Asset utilization	Debt ratio	Firm performance
Liquidity	1			
Asset utilization	-.133	1		
Debt ratio	-.249**	.439**	1	
Firm performance	-.036*	.025*	-.027	1

** . Correlation is significant at the 0.01 level (2-tailed).

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As shown in table (4) that the Liquidity can explain 3.2 % of the changes that happen in debt ratio and show why does it changes. When the Liquidity increases by 1 % the firm performance decreases by 0.36 %. Perhaps, this is because the negative correlation between Liquidity and firm performance. As, when the liquidity of the organization increases the ability to pay its debts will increase so the debt ratio will decrease. This led the researchers to accept the first hypothesis where the regression analysis results showed a negative significant impact on the firm performance.

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Hypothesis two:

As shown in table (5) Asset utilization has a significant impact on firm performance at significance level less than 0.05.

Table (5) Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	.106	.049			2.144	.034
Asset utilization	.017	.057	.025		.303	.763
R square						0.064

a. Dependent Variable: return on equity

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As shown in table (5) that the asset utilization can explain 6.4% of the changes in firm performance. The coefficient of total assets turnover ratio (asset utilization) is 0.17, meaning that the return on assets (Firm performance) improves by 0.17 percent. This can be explained that when asset utilization is correctly managed, it will impact the success of the organization, and this will improve the performance of the organization. According to the results above, hypothesis two is accepted that asset utilization has a significant positive impact on the firm performance.

Hypothesis three and four:

Hypotheses 3 and 4 are examining the moderating role of the debt ratio in the relationship between liquidity and asset utilization on one hand and the firm performance on the other hand. Table(6) shows the ANOVA analysis results.

Table (6) ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.097	2	.048	.200	.819b
Residual	35.727	147	.243		
Total	35.824	149			

R2=0.003

a. Dependent Variable: return on equity

a. Predictors: (Constant), Liquidity , debt ratio= current liabilities / total assets

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.087	2	.043	.179	.836b
Residual	35.737	147	.243		
Total	35.824	149			

R2=0.0049

a. Dependent Variable: return on equity

b. Predictors: (Constant), Asset utilization , debt ratio= current liabilities / total assets

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As shown in table (6) there is insignificant mediating impact of debt ratio on the relationship between both liquidity and asset utilization and firm performance. This is apparent from the low significant level 0.819 and 0.836 that are greater than 0.05. As shown in table (6) that the Liquidity while considering debt as mediating can explain only 0.003 of the changes that happen in return on equity which is used to measure firm performance. Meanwhile, the asset utilization while considering debt as mediating can explain 0.0049 of the changes that happen in return on equity which is used to measure firm performance. According to these results the researchers are rejecting hypotheses number 3 and 4.

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Results and discussion

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Table (7) is summarizing the main results of testing the research hypotheses. The table included the acceptance and rejection of the hypotheses along with sample of the supporting literature review.

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Table (7): summary of the research hypotheses testing results

Hypothesis	Results	Acceptation or rejection of the hypothesis	Supporting article
H1: There is a significant association between liquidity and firm performance	The results showed that there is a correlation between the quick ratio and firm performance. As, negative relation because when the company possess excessive liquidity the company performance may decrease	Accepted	<i>Eljelly (2004)</i>

<p>H2: There is a significant association between asset utilization and firm performance</p>	<p>The results showed that there is a positive significant association between total asset turnover and firm performance.</p>	<p>Accepted</p>	<p>Nafi'ah et al., (2022))</p>
<p>H3. Debt ratio has a significant mediating impact on the association between liquidity and firm performance.</p>	<p>The results showed that there is no correlation between liquidity and firm performance considering debt ratio as mediating</p>	<p>Rejected</p>	<p>Dimiyati et al. (2021),</p>
<p>H4. Debt ratio has a significant mediating impact on the association between asset utilization and firm performance.</p>	<p>The results showed that there is no correlation between asset utilization and firm performance considering debt ratio as mediating variable</p>	<p>Rejected</p>	<p>Junaid & ali (2020),</p>

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As table (7) shows that the first and second hypotheses are accepted that there is a negative significant association between liquidity and firm performance. Which means that when the Liquidity increases the firm performance may deteriorate if the liquidity exceeded the safe levels and became idle in the company and not generating return to the company. On the other hand, hypothesis two is also, accepted where there is a significant positive association between asset utilization and firm performance. Also, it shows that the correlation is positive which it means that when the Asset utilization increases the operation of the organization will increase and the organization will achieve more revenue so the performance of the company will increase.

Regarding third and fourth hypotheses, **both are rejected** when considering debt ratio as a mediating variable. Perhaps, this is because if the company has excessive liquidity and high asset utilization it would not e in a need for borrowing and it can finance its own operations through the available resources.

Conclusion, limitation, and recommendations

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842 The paper tries to examine the association between liquidity and
843 firm performance in addition to testing the mediating role of debt ratio
844 on this association. The data analyzed was secondary collected through
845 companies' financial statements. The sample consisted of 50 Egyptian
846 listed companies that have been selected out of the EGX 100 index after
847 excluding all the financial institutions due to their special nature. The
848 data were analyzed using descriptive analysis, regression and ANOVA
849 techniques. The results showed the acceptance of the first and second
850 hypotheses and the rejection of the third and fourth hypotheses. The
851 main theme here is that liquidity and asset utilization are among the key
852 factors for enhancing the firm performance. In this study, the results
853 showed a negative significant association between liquidity and firm
854 performance ad that was accepted because if the company has excessive
855 cash this led to lower profitability to the company as it is not used in the
856 right investment. Likewise, the liquidity can increase by increasing the
857 asset utilization in the originations which that will increase the profit of
858 company. The second hypotheses stated that there is a significant
859 association between asset utilization and firm performance which also
860 was accepted because since asset utilization is high the operations of the
861 business will expand and will enhance the firm performance. Asset
862 utilization can be enhanced through many techniques for example,
863 increasing the inventory turnover or enhancing the sales turnover so the
864 firm will achieve higher revenue.

865 The third and fourth hypotheses have been rejected. There is a
866 insignificant mediating role for the det ration on the association between
867 liquidity and asset utilization and firm performance. So, Asset utilization
868 does not affect firm performance while considering debt ratio as
869 mediating variable. Perhaps, this is because when the liquidity within
870 the acceptable level and asset utilization increases the debt will not be
871 an impacting factor as the company have its resources to finance its
872 operations and increase its profitability.

873 In addition, most researchers, such as Bahti et al. (2019),
874 discovered a favourable relationship between liquidity and company
875 performance after conducting a literature study. Nevertheless, Dimyati
876 et al. (2021) and Mustafa et al. (2019) discovered a negative relationship
877 between liquidity and company performance. On the other hand,
878 Chauhan and Juliana (2020) discovered that asset usage positively
879 correlates with company performance. In contrast, Sarpingah (2020) and
880 Junaid and Ali (2020) discovered that asset usage negatively correlates
881 with company performance. In addition, Forte & Tavares (2019) found

882 a favorable correlation between debt ratio and business performance.
883 While Le & phan (2017) found a negative relationship between firm
884 leverage, as measured by debt ratio, and company performance, we find
885 the opposite.

886 This study is impeded by a lack of information regarding asset
887 utilization metrics and the relationship between the debt ratio and
888 enterprise performance. Also, the research was limited to a three-year
889 period beginning in 2019 and ending in 2021, which was seen as a
890 constraint because a longer time period may have shown different
891 results, and there was a shortage of data for several factors. In addition,
892 the research focuses on only a few particular metrics for variables such
893 as ROE for assessing firm performance and Asset utilization for
894 determining asset utilization. Lastly, the research concentrated
895 exclusively on major corporations in Egypt and ignored small and
896 medium-sized enterprises (SMEs) in Egypt.

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898 **Recommendations for future research:**

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900 The research's main goal is to focus on the impact of liquidity
901 and asset utilization on firm performance while considering debt ratio as
902 mediating variables. So, it is recommended for future research to
903 investigate and collect data on wider range of years which is more than
904 3 years. In order to get more accurate results and test the relation
905 between the variables. Moreover, it is recommended to use different
906 mediating variable other than debt ratio and find more mediating
907 variables that may affect the firm performance. Furthermore, future
908 researches can use different measurements to measure the variables such
909 as current ratio for liquidity, inventory turnover which is used to
910 measure asset utilization and return on asset to measure the firm
911 performance. Also, future research needs to study different types of
912 origination such as small medium size enterprises and small
913 organization. So, they can test the effect of independent variable on the
914 dependent variable more accurately.

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