Appendix

Annex 1: Statistical significance test for the mean difference of Currency outside banks and narrow money to GDP ratios in pre-reform and reform period in Ethiopia

(1) Currency outside bank/GDP
.ttest recobgdpgdp == prcobgdpgdp

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>recobgdpgdp</td>
<td>20</td>
<td>8.806851</td>
<td>.5063813</td>
<td>2.26406</td>
<td>7.746983  9.86672</td>
</tr>
<tr>
<td>prcobgdpgdp</td>
<td>20</td>
<td>6.425011</td>
<td>.3899693</td>
<td>1.743996</td>
<td>5.608796  7.241226</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>2.381841</td>
<td>.8803632</td>
<td>3.937104</td>
<td>.5392192  4.224462</td>
</tr>
</tbody>
</table>

mean(diff) = mean(recobgdpgdp - prcobgdpgdp)
Ho: mean(diff) = 0
degrees of freedom = 19
Ha: mean(diff) < 0
Ha: mean(diff) != 0
Ha: mean(diff) > 0
Pr(T < t) = 0.9930
Pr(|T| > |t|) = 0.0140
Pr(T > t) = 0.0070

Note: the variables recobgdpgdp and prcobgdpgdp referes to currency outside banks to GDP ratio during the reform and pre-reform period, respectively

(2) Narrow Money to GDP ration (M1/GDP)
.ttest rem1gdp == prm1gdp

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>rem1gdp</td>
<td>20</td>
<td>19.1171</td>
<td>.5254994</td>
<td>2.350105</td>
<td>18.01721  20.21698</td>
</tr>
<tr>
<td>prm1gdp</td>
<td>20</td>
<td>11.02859</td>
<td>.8840033</td>
<td>3.953383</td>
<td>9.178346  12.87883</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>8.088511</td>
<td>1.19713</td>
<td>5.353729</td>
<td>5.582889  10.59413</td>
</tr>
</tbody>
</table>

mean(diff) = mean(rem1gdp - prm1gdp)
Ho: mean(diff) = 0
degrees of freedom = 19
Ha: mean(diff) < 0
Ha: mean(diff) != 0
Ha: mean(diff) > 0
Pr(T < t) = 1.0000
Pr(|T| > |t|) = 0.0000
Pr(T > t) = 0.0000

Note: the variables rem1gdp and rem1gdp referes to the ratio of narrow money to GDP ratio during the reform and pre-reform period, respectively
Annex 2: Statistical significance test for the mean difference of demand deposit and saving deposit to GDP ratios in pre-reform and reform period in Ethiopia

(1) Demand Deposit/GDP

\[ t \text{test } \text{reddgdp} \equiv \text{prddgdp} \]

Paired t test

\begin{tabular}{|c|c|c|c|c|c|}
\hline
Variable & Obs & Mean & Std. Err. & Std. Dev. & [95% Conf. Interval] \\
\hline
reddgdp & 20 & 10.31025 & & & \\
prddgdp & 20 & 4.603575 & & & \\
\text{diff} & 20 & 5.70667 & & & \\
\hline
\end{tabular}

\[ \text{mean(diff) = mean(reddgdp - prddgdp)} \]

\begin{align*}
\text{Ho: mean(diff) = 0} & & \text{degrees of freedom = 19} \\
\text{Ha: mean(diff) < 0} & & \text{Ha: mean(diff) != 0} & & \text{Ha: mean(diff) > 0} \\
\text{Pr(T < t) = 1.0000} & & \text{Pr(|T| > |t|) = 0.0000} & & \text{Pr(T > t) = 0.0000} \\
\end{align*}

Note: the variables reddgdp and prddgdp referes to the ratio of demand deposit to GDP ratio during the reform and pre-reform period, respectively.

(2) Saving Deposit/GDP

\[ t \text{test } \text{reqmgdp} \equiv \text{prqmgdp} \]

Paired t test

\begin{tabular}{|c|c|c|c|c|c|}
\hline
Variable & Obs & Mean & Std. Err. & Std. Dev. & [95% Conf. Interval] \\
\hline
reqmgdp & 20 & 12.84133 & & & \\
prqmgdp & 20 & 5.347291 & & & \\
\text{diff} & 20 & 7.494041 & & & \\
\hline
\end{tabular}

\[ \text{mean(diff) = mean(reqmgdp - prqmgdp)} \]

\begin{align*}
\text{Ho: mean(diff) = 0} & & \text{degrees of freedom = 19} \\
\text{Ha: mean(diff) < 0} & & \text{Ha: mean(diff) != 0} & & \text{Ha: mean(diff) > 0} \\
\text{Pr(T < t) = 1.0000} & & \text{Pr(|T| > |t|) = 0.0000} & & \text{Pr(T > t) = 0.0000} \\
\end{align*}

Note: the variables reqmgdp and prqmgdp referes to the ratio of quasi money to GDP ratio during the reform and pre-reform period, respectively.
Annex 3: Statistical significance test for the mean difference of Bank credit by economic sectors to total loans and advances in pre-reform and reform period in Ethiopia

(1) Domestic trade credit
\[
\text{Pr}(T < t) = 1.0000, \quad \text{Pr}(|T| > |t|) = 0.0000, \quad \text{Pr}(T > t) = 0.0000
\]

\[
\text{Ho: mean(diff) = 0}, \quad \text{degrees of freedom = 19}
\]

\[
\text{mean(diff) = mean(redomtc - prdomtc)}, \quad t = 8.2185
\]

Note: the variables redomtc and prdomtc refers to the ratio of domestic trade credit to total outstanding loans and advances during the reform and pre-reform period, respectively

(2) Import credit
\[
\text{Pr}(T < t) = 1.0000, \quad \text{Pr}(|T| > |t|) = 0.0000, \quad \text{Pr}(T > t) = 0.0000
\]

\[
\text{Ho: mean(diff) = 0}, \quad \text{degrees of freedom = 19}
\]

\[
\text{mean(diff) = mean(reimpc - primpc)}, \quad t = -0.8670
\]

Note: the variables reimpc and primpc refers to the ratio of import credit to total outstanding loans and advances during the reform and pre-reform period, respectively
(3) International trade credit
  . ttest rehtc == prhtc

Paired t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>rehtc</td>
<td>20</td>
<td>1.701791</td>
<td>.1419897</td>
<td>.6349974</td>
<td>1.404604 - 1.998979</td>
</tr>
<tr>
<td>prhtc</td>
<td>20</td>
<td>.4701654</td>
<td>.0453253</td>
<td>.2027008</td>
<td>.3752985 - .5650322</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>1.231626</td>
<td>.1511464</td>
<td>.6759472</td>
<td>.9152731 - 1.547979</td>
</tr>
</tbody>
</table>

mean(diff) = mean(rehtc - prhtc)  
Ho: mean(diff) = 0  
degrees of freedom = 19

Pr(T < t) = 0.6469  
Pr(|T| > |t|) = 0.7062  
Pr(T > t) = 0.3531

Note: the variables rehtc and prhtc refer to the ratio of international trade credit to total outstanding loans and advances during the reform and pre-reform period, respectively.

(4) Hotel and tourism credit
  . ttest rehtc == prhtc

Paired t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>rehtc</td>
<td>20</td>
<td>4.275011</td>
<td>.3722235</td>
<td>1.664634</td>
<td>3.495939 - 5.054084</td>
</tr>
<tr>
<td>prhtc</td>
<td>20</td>
<td>4.567247</td>
<td>.4086886</td>
<td>1.827711</td>
<td>3.711852 - 5.422642</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>-.292236</td>
<td>.5379184</td>
<td>2.405644</td>
<td>-.418112 - .8336401</td>
</tr>
</tbody>
</table>

mean(diff) = mean(rehtc - prhtc)  
Ho: mean(diff) = 0  
degrees of freedom = 19

Pr(T < t) = 1.0000  
Pr(|T| > |t|) = 0.0000  
Pr(T > t) = 0.0000

Note: the variables rehtc and prhtc refer to the ratio of hotel and tourism credit to total outstanding loans and advances during the reform and pre-reform period, respectively.

(5) Transport and communication
  . ttest retcc == prtcc

Paired t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>retcc</td>
<td>20</td>
<td>4.666667</td>
<td>3.722235</td>
<td>1.664634</td>
<td>3.495939 - 5.054084</td>
</tr>
<tr>
<td>prtcc</td>
<td>20</td>
<td>4.567247</td>
<td>.4086886</td>
<td>1.827711</td>
<td>3.711852 - 5.422642</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>1.097498</td>
<td>2.153209</td>
<td>1.25758</td>
<td>1.039292 - 1.695588</td>
</tr>
</tbody>
</table>

mean(diff) = mean(retcc - prtcc)  
Ho: mean(diff) = 0  
degrees of freedom = 19

Pr(T < t) = 0.2966  
Pr(|T| > |t|) = 0.5933  
Pr(T > t) = 0.7034

Note: the variables retcc and prtcc refer to the ratio of transport and communication credit to total outstanding loans and advances during the reform and pre-reform period, respectively.
### (6) Housing and construction credit

- **t test** `rehc == prhc`

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>rehc</code></td>
<td>20</td>
<td>9.442255</td>
<td>.4700093</td>
<td>2.101946</td>
<td>8.458514 - 10.426</td>
</tr>
<tr>
<td><code>prhc</code></td>
<td>20</td>
<td>9.629255</td>
<td>.4914649</td>
<td>2.197898</td>
<td>8.600607 - 10.6579</td>
</tr>
<tr>
<td><code>diff</code></td>
<td>20</td>
<td>-0.187001</td>
<td>.7982382</td>
<td>3.56983</td>
<td>-1.857732 - 1.483732</td>
</tr>
</tbody>
</table>

- mean(`diff`) = mean(`rehc` - `prhc`)  
  H₀: mean(`diff`) = 0  
  Hₐ: mean(`diff`) < 0  
  Pr(T < t) = 0.4086  
  Pr(|T| > |t|) = 0.8173  
  Pr(T > t) = 0.5914

- degrees of freedom = 19

Note: the variables `rehc` and `prhc` refer to the ratio of housing and construction credit to total outstanding loans and advances during the reform and pre-reform period, respectively.

### (7) Mining, power, and water credit

- **t test** `rempwc == prmpwc`

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>rempwc</code></td>
<td>20</td>
<td>.2378494</td>
<td>.0747484</td>
<td>.3342852</td>
<td>.0813991 - .3942997</td>
</tr>
<tr>
<td><code>prmpwc</code></td>
<td>20</td>
<td>.7317377</td>
<td>.075217</td>
<td>.3363806</td>
<td>.5743068 - .8891687</td>
</tr>
<tr>
<td><code>diff</code></td>
<td>20</td>
<td>-0.4938844</td>
<td>.1265773</td>
<td>.5660709</td>
<td>-.7588177 - .228959</td>
</tr>
</tbody>
</table>

- mean(`diff`) = mean(`rempwc` - `prmpwc`)  
  H₀: mean(`diff`) = 0  
  Hₐ: mean(`diff`) < 0  
  Pr(T < t) = 0.0005  
  Pr(|T| > |t|) = 0.0010  
  Pr(T > t) = 0.9995

- degrees of freedom = 19

Note: the variables `rempwc` and `prmpwc` refer to the ratio of mining, power, and water credit to total outstanding loans and advances during the reform and pre-reform period, respectively.
(8) Others (Miscellaneous) sector credit

. ttest reothers == prothers

Paired t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[ 95% Conf. Interval ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>reothers</td>
<td>20</td>
<td>7.853053</td>
<td>1.361036</td>
<td>6.086737</td>
<td>5.004372 - 10.70173</td>
</tr>
<tr>
<td>prothers</td>
<td>20</td>
<td>1.121706</td>
<td>0.2038697</td>
<td>0.9117328</td>
<td>0.6950019 - 1.54841</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>6.731347</td>
<td>1.298341</td>
<td>5.806356</td>
<td>4.013888 - 9.448805</td>
</tr>
</tbody>
</table>

mean(diff) = mean(reothers - prothers)   t = 5.1846
Ho: mean(diff) = 0   degrees of freedom = 19
Ha: mean(diff) < 0   Ha: mean(diff) != 0   Ha: mean(diff) > 0
Pr(T < t) = 1.0000   Pr(|T| > |t|) = 0.0001   Pr(T > t) = 0.0000

Note: the variables reothers and prothers refer to the ratio of others credit to total outstanding loans and advances during the reform and pre-reform period, respectively.

(9) Personal loan

. ttest repersonal == prpersonal

Paired t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>Std. Dev.</th>
<th>[ 95% Conf. Interval ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>repersonal</td>
<td>20</td>
<td>-0.2257345</td>
<td>0.0217047</td>
<td>0.0970665</td>
<td>0.180306 - 0.271163</td>
</tr>
<tr>
<td>prpersonal</td>
<td>20</td>
<td>-0.3517542</td>
<td>0.0457766</td>
<td>0.2047193</td>
<td>0.2559426 - 0.4475658</td>
</tr>
<tr>
<td>diff</td>
<td>20</td>
<td>-0.1260197</td>
<td>0.0609025</td>
<td>0.2723644</td>
<td>-0.2534902 - 0.0014507</td>
</tr>
</tbody>
</table>

mean(diff) = mean(repersonal - prpersonal)   t = -2.0692
Ho: mean(diff) = 0   degrees of freedom = 19
Ha: mean(diff) < 0   Ha: mean(diff) != 0   Ha: mean(diff) > 0
Pr(T < t) = 0.0262   Pr(|T| > |t|) = 0.0524   Pr(T > t) = 0.9738

Note: the variables repersonal and prpersonal refer to the ratio of personal loan to total outstanding loans and advances during the reform and pre-reform period, respectively.