Outputting Your Data to Microsoft Excel Is Inevitable. So Is the SAS® ODS Excel Destination.

Claudia Hauck & Hezekiah Bunde

Educational Testing Service
Microsoft Excel is one of the most used tools wherever data is used, stored, or analyzed. Many SAS® users often resort to producing Excel output and working outside of the SAS® environment to finesse the deliverables...until now. With the SAS® Output Delivery System (ODS) Excel destination, data manipulation and visualization is now possible. Native Excel files and graphs can now be created and customized.

It was just a matter of time before this magnificent tool became a reality. ODS Excel is here to stay! Novice programmers with little or no experience at all with ODS output to experienced professionals will instantly experience its benefits. This e-poster demonstrates with easy-to-follow steps how to deliver your data from SAS to Excel. Users will realize time-saving benefits by pre-defining their preferences and avoid performing manual and repetitive tasks such as creating multiple sheets, adding color, titles, graphs, headers, footers, and so on.

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METHODS

SAS® datasets were used to demonstrate the ease and convenience of creating Excel graphs and tables.

- **SAS® ODS Excel table with options** – The sashelp.shoes dataset is used to demonstrate the ease and availability of multiple options at the user’s disposal.

```sas
ods excel file="C:\Table1.xlsx";
ods excel options (header=on); run;
```

- **Excel printing options** – A set-up of the print options is shown.

```
ods excel file="C:\Table1.xlsx";
ods excel options (header=on); run;
```

- **Charts/Graphs** – Stock chart and Graph created using `stocks` and `shoes` datasets.
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RESULTS

Chart 1: Excel Stock Chart

Chart 2: Excel Pie Chart
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RESULTS cont.

<table>
<thead>
<tr>
<th>Region</th>
<th>Subsidiary</th>
<th>Sales</th>
<th>Inventory</th>
<th>Total Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle East</td>
<td>Al-Khobar</td>
<td>$39,062</td>
<td>$44,658</td>
<td>$8765</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$240,201</td>
<td>$516,745</td>
<td>$13,251</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$261,445</td>
<td>$711,246</td>
<td>$6,975</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$1,310</td>
<td>$165,843</td>
<td>$62</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$566,795</td>
<td>$201,779</td>
<td>$3,052</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$223,514</td>
<td>$447,377</td>
<td>$5,566</td>
</tr>
<tr>
<td></td>
<td>Al-Khobar</td>
<td>$241,820</td>
<td>$611,686</td>
<td>$6,167</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$30,972</td>
<td>$403,269</td>
<td>$4,049</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$419,336</td>
<td>$866,115</td>
<td>$17,552</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$324,312</td>
<td>$745,970</td>
<td>$8,159</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$177,492</td>
<td>$58,985</td>
<td>$7,04</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$87,680</td>
<td>$1,236,689</td>
<td>$12,768</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$24,047</td>
<td>$114,232</td>
<td>$77</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$232,374</td>
<td>$416,012</td>
<td>$8,102</td>
</tr>
<tr>
<td></td>
<td>Dubai</td>
<td>$435,981</td>
<td>$2,282,400</td>
<td>$12,399</td>
</tr>
<tr>
<td></td>
<td>Tel Aviv</td>
<td>$65,249</td>
<td>$222,150</td>
<td>$2,320</td>
</tr>
<tr>
<td></td>
<td>Tel Aviv</td>
<td>$1,298,717</td>
<td>$2,881,005</td>
<td>$57,362</td>
</tr>
<tr>
<td></td>
<td>Tel Aviv</td>
<td>$253,814</td>
<td>$631,479</td>
<td>$8,727</td>
</tr>
</tbody>
</table>

**Table 1:** Traffic-lighting via PROC REPORT

**Table 2:** Highlighting and filtering via PROC TABULATE

**Table 3:** Excel sheet with style option

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RESULTS cont.

<table>
<thead>
<tr>
<th>Region</th>
<th>Subsidiary</th>
<th>Product</th>
<th>Total Sales</th>
<th>Total Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>Addis Ababa</td>
<td>Boot</td>
<td>$29,761</td>
<td>$18,965</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Men's Casual</td>
<td>$67,242</td>
<td>$1,063,251</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Men's Dress</td>
<td>$76,793</td>
<td>$45,962</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sandal</td>
<td>$62,819</td>
<td>$30,430</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slipper</td>
<td>$69,611</td>
<td>$54,117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sport Shoe</td>
<td>$1,689</td>
<td>$20,815</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women's Casual</td>
<td>$53,541</td>
<td>$940,851</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women's Dress</td>
<td>$189,942</td>
<td>$51,145</td>
</tr>
<tr>
<td>Algeria</td>
<td></td>
<td>Boot</td>
<td>$21,287</td>
<td>$63,206</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Men's Casual</td>
<td>$63,206</td>
<td>$123,743</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Men's Dress</td>
<td>$29,190</td>
<td>$64,897</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sandal</td>
<td>$64,897</td>
<td>$54,117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slipper</td>
<td>$2,617</td>
<td>$20,815</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sport Shoe</td>
<td>$2,617</td>
<td>$54,117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women's Dress</td>
<td>$39,640</td>
<td>$51,145</td>
</tr>
</tbody>
</table>

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CONCLUSION

ODS Excel is an immensely significant SAS® addition. ODS Excel offers an effortless way to transfer your SAS® output to native excel files. ODS Excel allows the user complete control of the Excel destination while still in the SAS® environment. The user is encouraged to explore ODS Excel options that include (but are not limited to) those illustrated here. Doing so will afford newfound ways of managing and visualizing data.

REFERENCES


CONTACT INFORMATION

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Educational Testing Services (ETS)

Sample Code

*-----------------------------;
* Traffic Lighting in Excel ;
*-----------------------------;

ods excel file="C:\Table1.xlsx";
title1 j= c "Have SAS® work for YOU !";
title2 j= c "What a great title for my report!";
ods excel options (embedded_titles = "Yes" sheet_name = "#byvall");
proc report data = sashelp.shoes style (header)=[background=silver bordercolor=black borderwidth=2];
  by Region;
  column Subsidiary Sales Inventory Returns;
  define Sales/display "Sales";
  compute Sales;
  if Sales ne . then do;
  if Sales < 20000 then call define (_row_,"style","style={background=light_red}");
  if Sales >100000 then call define (_row_,"style","style={background=light_green}");
  end;
  endcomp;
  define Inventory/style (header)=[background=lightblue]"Inventory";
  run;
ods excel close;
PROC FORMAT;
    VALUE TEMP 60000-70000=yellow;
RUN;

ODS EXCEL OPTIONS(SHEET_NAME='Sales' AUTOFILTER='2-3' EMBEDDED_TITLES='ON');
TITLE3 J=C 'HIGHLIGHT CELLS RULE AND FILTERING';
PROC TABULATE DATA=SASHHELP.SHOES;
    VAR Sales;
    CLASS Region Product Subsidiary;
    TABLE Region*(Subsidiary*Product all=[Label='Region Total']) all=[Label='Grand Total'],
       Sales=[Label='Total Sales']*f=dollar12.*sum=[Label=' ']*[Style=[background =temp.]]/box='World Domestic Sales';
RUN;
ODS EXCEL CLOSE;

* WORKSHEET STYLE OPTION;
*---------------------------------------------------;

PROC REPORT DATA=SASHHELP.SHOES(WHERE=(Subsidiary="Cairo"));
    COLUMNS Product Sales Inventory;
RUN;
ODS EXCEL CLOSE;
* Piechart *

```
title;
ods excel file= "C:\PieChart.xlsx";
title5 "Shoe Sales in Africa by Subsidiary";
goptions colors=cback=LightGrey;
proc gchart data=sashelp.shoes (where=(Region="Africa"));
   pie Subsidiary/ sumvar=sales other=0 clockwise value=none slice=outside percent=outside noheading;
run;
ods excel close;
```

* Stock Chart *

```
title;
ods excel file="C:\Stock_Graph.xlsx";
title6 'Stock Trends in USA';
proc sgplot data=sashelp.stocks;
   styleattrs backcolor=lightgray;
   series x=date y=close group=stock;
run;
ods excel close;
```

* Print options *

```
*adding printing options to above tables code - optional;
ods excel options (center_horizontal = "on"
  center_vertical = "off"
  pages_fitwidth = "1"
  pages_fitheight = "2"
  print_header_margin = "1"
  print_footer_margin = "1"
  hidden_columns = "4"
  hidden_rows = "12"
  orientation = "Portrait"
  row_repeat = "Header" /* and/or column_repeat=*/
  zoom = "90"
  print_footer = "So ready to get printed");
```