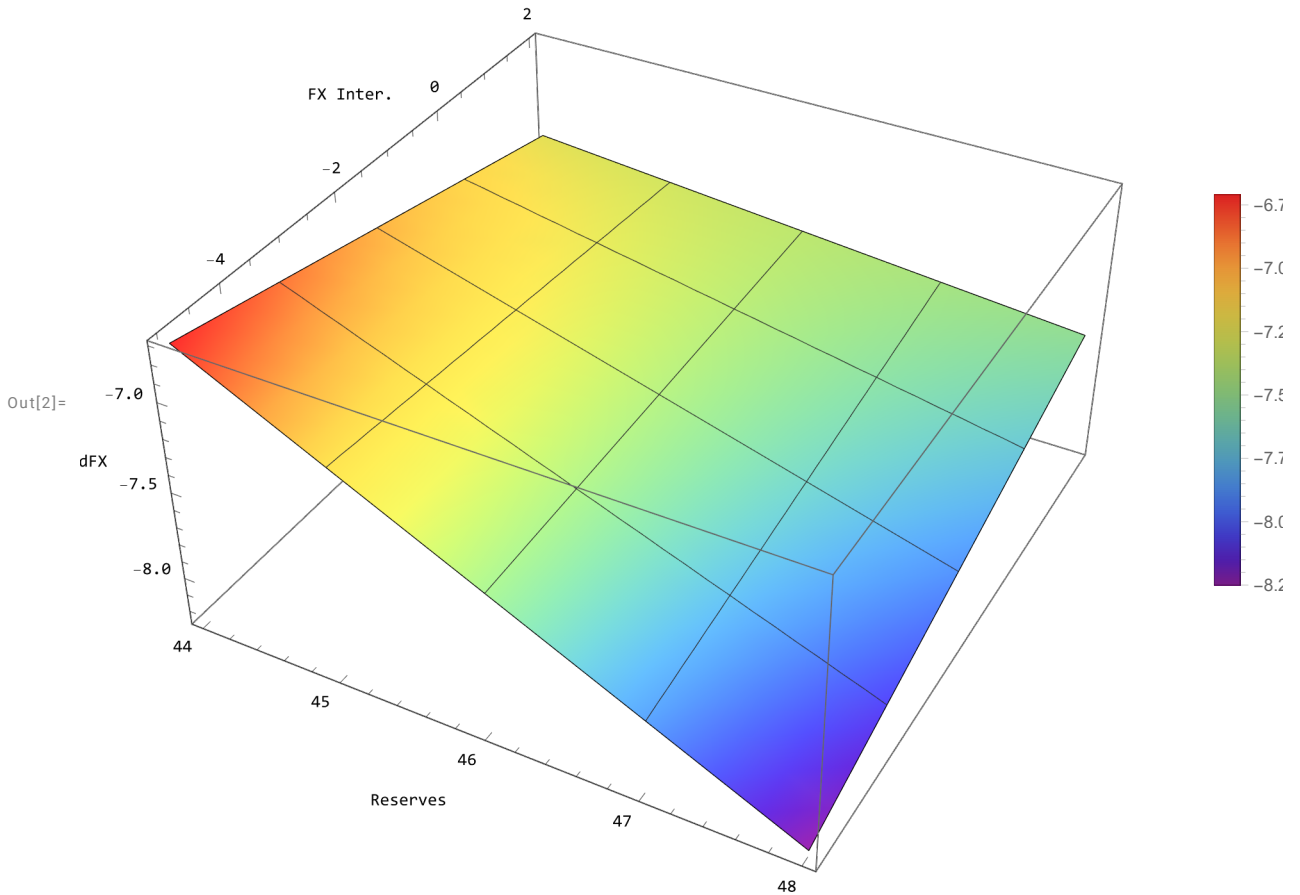


```

In[1]:= y = (-0.1610) x + (-2.0514) z + 0.0449 (x * z);
m = Plot3D[y, {x, 44, 48}, {z, 2, -5}, ColorFunction -> "Rainbow",
  AxesLabel -> {"Reserves", "FX Inter.", "dFX"}, FormatType -> StandardForm,
  PlotLegends -> Automatic, Mesh -> 3, ImageSize -> Large, BoxRatios -> {1, 1, 0.5}]

```



```

In[3]:= NotebookDirectory[];
Export[NotebookDirectory[] <> "3Dplot.png", m, ImageSize -> 1600]

```

Out[4]= C:\Users\jamel\Dropbox\Latex\PROJECTS\22-12-reer-tot-res-pm\Manuscript\ economics_letters\revision-first-round\3Dplot.png

```

In[5]:= FindExternalEvaluators["Python"]

```

Out[5]=

	System
cfdeb32c-edcb-d72d-e60a-9fcad58cdb6b	Python
4c89edbe-93da-e512-9c2f-4a6b14a53f89	Python
39ab2f5d-d23e-dc89-e941-0ff6995f5eba	Python
a8689299-f236-054a-1161-9e0f90360004	Python

```
In[6]:= RegisterExternalEvaluator["Python", "C:\\ProgramData\\anaconda3\\python.exe"]
```

```
Out[6]= a8689299-f236-054a-1161-9e0f90360004
```

```
In[7]:= session = StartExternalSession["Python"]
```

```
Out[7]= ExternalSessionObject [  System: Python Version: 3.10.9  

  UUID: 643b90bf-8825-4c35-a85f-ee9f7a4b9523 ]
```

```
In[8]:= import numpy as np
import matplotlib.pyplot as plt

# Define the range for x and z
x_vals = np.linspace(44, 48, 100)
z_vals = np.linspace(-5, 2, 100)


x, z = np.meshgrid(x_vals, z_vals)
y = (-0.1610 * x) + (-2.0514 * z) + 0.0449 * (x * z)

fig = plt.figure(figsize=(10, 7))
ax = fig.add_subplot(111, projection='3d')

# Use colormap as "rainbow" and add labels to the axes
surf = ax.plot_surface(x, z, y, cmap='rainbow', edgecolor='none')

# Add color bar on the right
fig.colorbar(surf, ax=ax, pad=0.1, aspect=30)

# Adjust box ratio
ax.set_box_aspect([1, 1, 0.5]) # Adjust the box ratio here

 # Add labels
ax.set_xlabel("Reserves")
ax.set_zlabel("dFX")
ax.set_ylabel("FX Inter.")

# adjust the view angle
ax.view_init(elev=20, azim=-42)

# Apply tight layout
plt.tight_layout()

# Specify the folder path to save the plot
save_folder = 'C:\\Users\\jamel\\Dropbox\\Latex\\PROJECTS\\22-12-reer-tot-res-
pm\\Manuscript\\economics_letters\\revision-first-round\\'

# Save the plot as a PNG image in the specified folder
plt.savefig(save_folder + '3d_surface_plot.png', dpi=300) # Specify the file name
and DPI

# Display the plot
plt.show()
```

```
In[9]:= ExternalEvaluate[session, "import sys; sys.version"]
```

```
Out[9]= 3.10.9 | packaged by Anaconda, Inc. |
  (main, Mar 1 2023, 18:18:15) [MSC v.1916 64 bit (AMD64)]
```

```
In[10]:= DeleteObject[session]
```