Los valores de las constantes son:

In[1]:=
```
ρ = 0.9
S0 = 2.637 / 2.637
σ = 0.03165594360356522
r = 0.18
t0 = 1
```

Out[1]= 0.9

Out[2]= 1.

Out[3]= 0.0316559

Out[4]= 0.18

Out[5]= 1

Como podemos observar coinside con el u0 de ADM.

In[6]:=
```
u0[x_, t_] := 0.009516666666666734 + 2.5730444444444434 * x
```

In[7]:=
```
u0[x, t]
```

Out[7]= 0.00951667 + 2.57304 x

In[8]:=
```
u0[S0, 1]
```

Out[8]= 2.58256

In[9]:=
```
A0[S_, t_] := (D[D[u0[S, t], S], S])^2
```

In[10]:=
```
A0[S, t]
```

Out[10]= 0

In[11]:=
```
a0[S_, t_] := {(4.894795283664987` + 7606.728690945833` S)^2}
```

In[12]:=
```
a0[S0, t0]
```

Out[12]= $\{5.79368 \times 10^7\}$

In[13]:=
```
u1[S_, t_] :=
 -Integrate[-1 / 2 * σ^2 * S^2 * D[D[u0[S, t], S], S] + r * S * D[u0[S, t], S] - r, t] -
  ρ * σ^2 * (Integrate[-S^3 * A0[S, t], t])
```

In[14]:=
```
u1[S, t]
```

Out[14]= 0. - (-0.18 + 0.463148 S) t

In[15]:=
```
U1[S_, t_] := {-2.503757692331228` S^3 (4.894795283664987` + 7606.728690945833` S)^2 t -
    (-0.08` - 125.1878846165614` S^2 (4.894795283664987` + 7606.728690945833` S) + 0.08` S
        (-0.04328399294027511` + 4.894795283664987` S + 3803.3643454729163` S^2)) t}
```

In[16]:=
```
U1[S0, t0]
```
Out[16]= $\{-1.44107 \times 10^{8}\}$

In[17]:=
```
A1[S, t] := 2 * (D[D[u0[S, t], S], S]) * (D[D[u1[S, t], S], S])
```

In[18]:=
```
A1[S, t]
```
Out[18]= 0

In[19]:=
```
a1[S_, t_] := 0
```

In[20]:=
```
a1[S0, t0]
```
Out[20]= 0

In[21]:=
```
u2[S_, t_] :=
 -Integrate[-1 / 2 * σ^2 * S^2 * D[D[u1[S, t], S], S] + r * S * D[u1[S, t], S] - r, t] -
  ρ * σ^2 * (Integrate[-S^3 * A1[S, t], t])
```

In[22]:=
```
u2[S, t]
```
Out[22]= $0. + 0.18\, t + 0.0416833\, S\, t^2$

In[23]:=
```
U2[S_, t_] := 0.` + 0.18` t + 0.2574852406793702` S t^2
```

In[24]:=
```
U2[S0, t0]
```
Out[24]= 0.437485

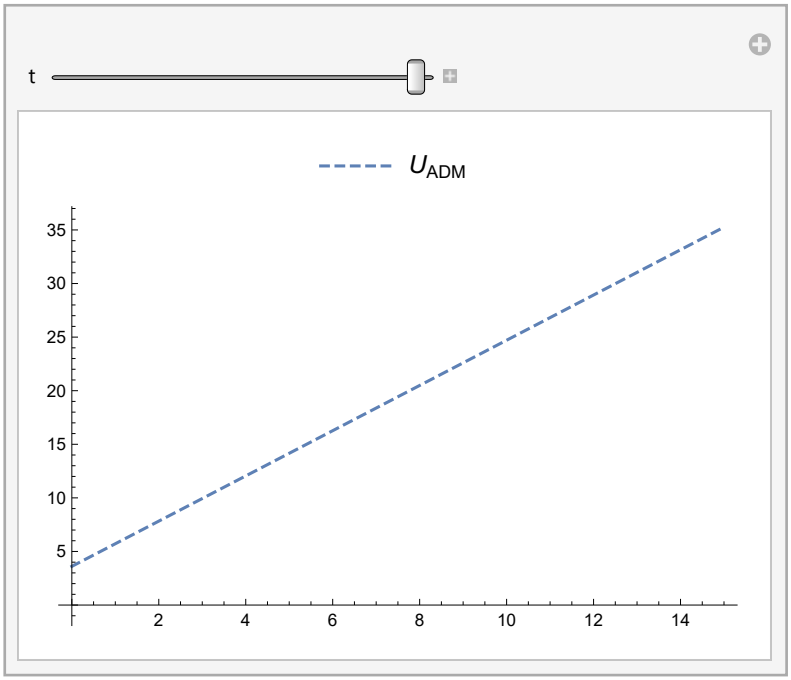
In[25]:=
```
u[S_, t_] := u0[S, 0] + u1[S, t] + u2[S, t]
```

In[26]:=
```
u[S, t]
```
Out[26]= $0.00951667 + 2.57304\, S + 0.18\, t - (-0.18 + 0.463148\, S)\, t + 0.0416833\, S\, t^2$

In[27]:=
```
U[S_, t_] := 0.009516666666666734` + 2.5730444444444434` S +
  0.18` t - (-0.18` + 0.4631479999999998` S) t + 0.04168331999999998` S t^2
```

In[28]:=
```
Manipulate[Plot[{U[S, t]}, {S, 0, 15}, PlotLegends → Placed[{"U_ADM"}, Above],
  PlotStyle → {Triangle, Dashed}, AxesOrigin → {0, 0}], {t, 0, 10}]
```

Out[28]=



In[36]:=
```
U[1, 10 / 12]
```

Out[36]= 2.52555

In[38]:=
```
(U[S0, 10 / 12] / 2.637 - 1) * 100
```

Out[38]= -4.22635